

APPENDIX B
WETLAND DELINEATION,
ST. MARIES RIVER STUDY AREAS

**WETLAND DELINEATION
FOR
ST. MARIES RIVER STUDY AREAS
Emerald Creek Garnet, LTD.
Benewah and Shoshone Counties, Idaho**

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ACKNOWLEDGMENTS

This wetland delineation has been completed by *SELKIRK ENVIRONMENTAL*, a small business with twelve years experience in evaluation of terrestrial and aquatic ecosystems. The above consulting firm has provided professional services that are in accordance with that degree of care and skill generally accepted in the nature of the work performed.

Mr. Tom Duebendorfer, Wetland Scientist, assisted in completion of field studies on this project, and prepared a plant species list for use in completing field data sheets.

As a pertinent part of a joint application with the State of Idaho and the US Army Corps of Engineers (Corps), this document must be reviewed and approved by permitting agencies. Wetland boundaries and wetland functional value assessment must be approved by the appropriate Federal, State, and local jurisdictions during the course of permitting.

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PROJECT AREA

At the request of Emerald Creek Garnet, LTD. (ECG), a wetland delineation has been completed in seven study areas on approximately 355 acres along the St. Maries River, near Fernwood, Idaho, in Benewah and Shoshone Counties (Figure 1).

The location and extent of the study areas have been based on a reserve report prepared by DDH Geomanagement, LTD. The reserve report identified minable garnet reserves throughout the study areas. The seven study areas include the active floodplain of the river southwest of Highway 3, and the historic floodplain and non-floodplain areas northeast of Highway 3 (Figure 2).

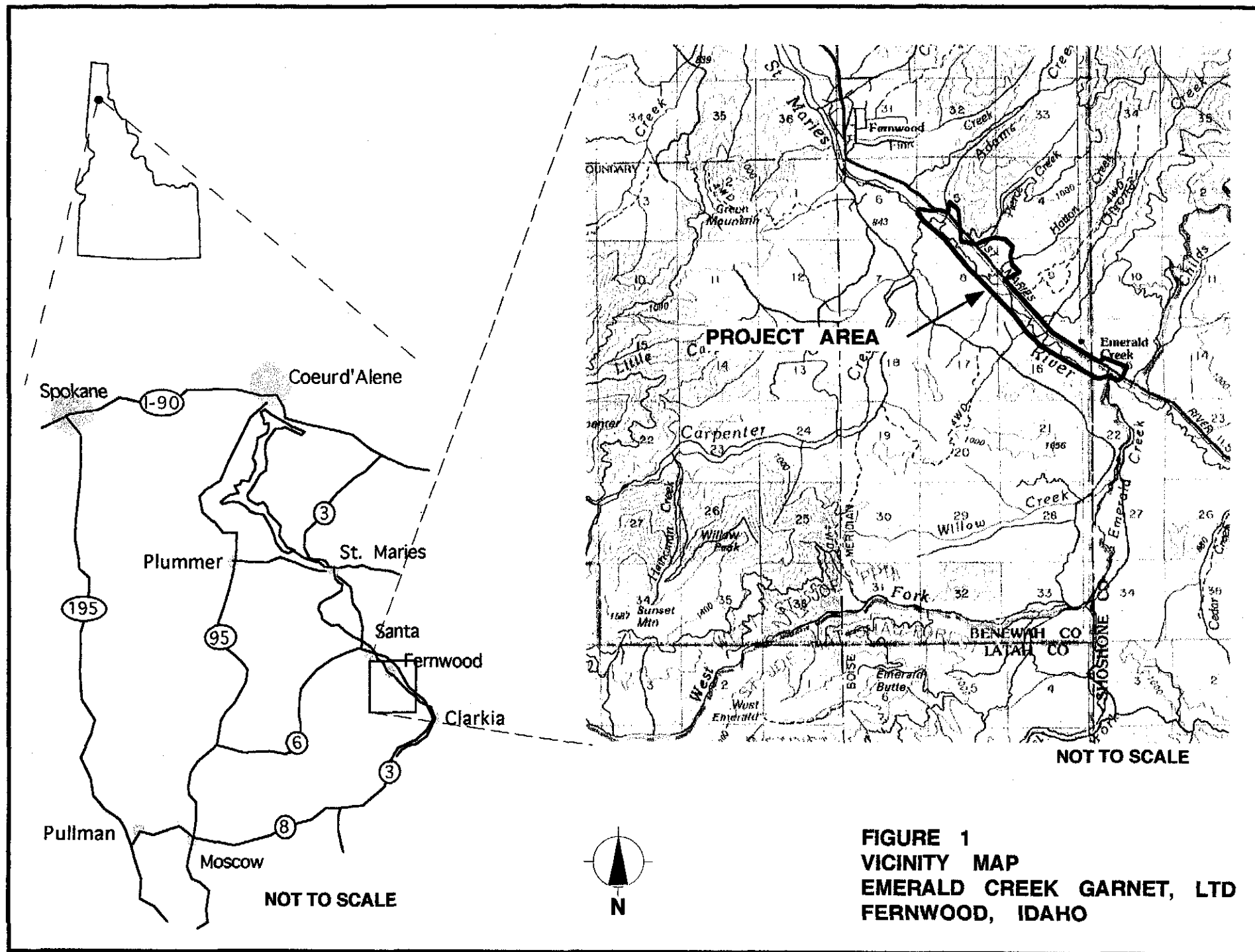
Seven study areas comprise 355.8 acres adjacent to and near the St. Maries River between Emerald and Carpenter creeks. The St. Maries River empties into the St. Joe River approximately 35 river miles downstream of the study areas. The St. Joe River empties into the south end of Lake Coeur d'Alene.

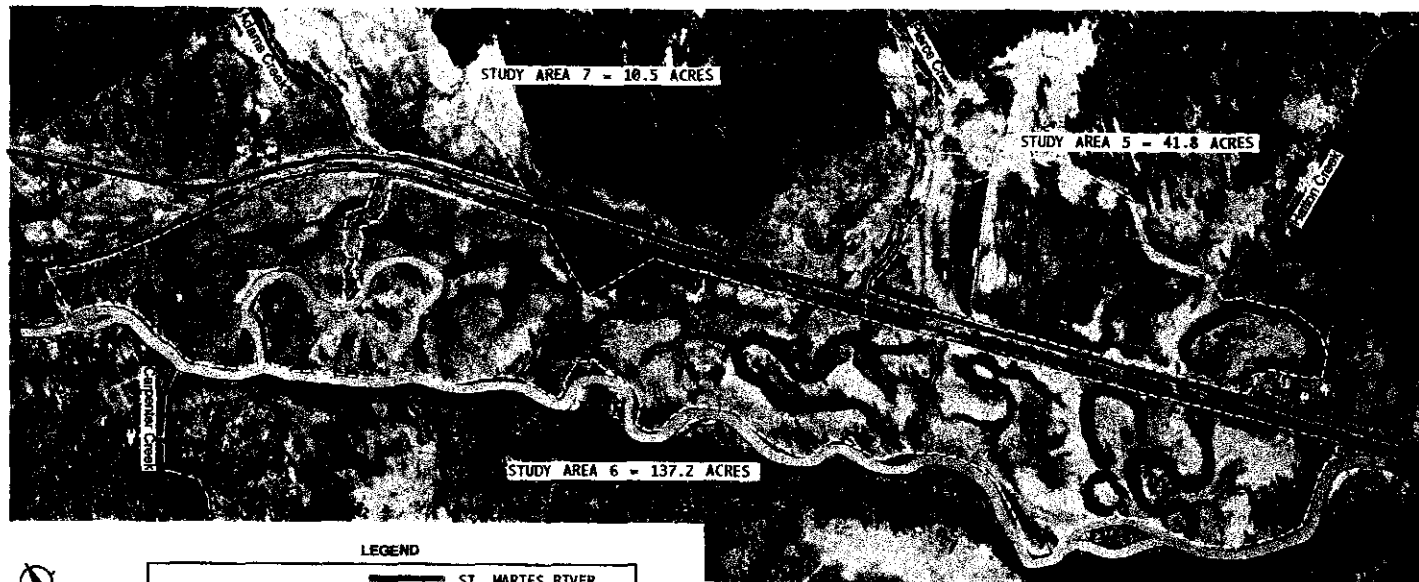
PROJECT DESCRIPTION

ECG proposes to dredge mine alluvial deposits of industrial grade garnet that have been proven in the study areas. Dredge mining garnet involves constructing Best Management Practices (BMP's), stockpiling topsoil and overburden, and excavating a garnet-rich alluvial layer. The garnet material is concentrated on- and off-site in a series of trommel, jig, and mill operations. Overburden and topsoil are replaced, and the mined area is regraded and planted. This dredge activity is relatively shallow as the garnet bearing layers lie within 16 feet of the soil surface. Garnet would be mined incrementally, with 10 to 25 acres per year mined and reclaimed over the following one to two years.

PURPOSE

The purpose of this report is to provide ECG a detailed wetland determination that will satisfy the requirements of the US Army Corps of Engineers' (COE) 404 permit requirements as well as State of Idaho Dredge Mining Permit requirements. To meet those requirements, this report contains a wetland delineation of all wetlands within the seven study areas, and a wetland evaluation method to assess the value of all identified wetlands.





LEGEND

	STUDY AREAS		ST. MARIES RIVER
	STREAMS		STATE HIGHWAY 3
			ST. MARIES RAILROAD

SCALE: 1 inch = 700 feet

TOTAL STUDY AREA EXTENT = 355.8 ACRES

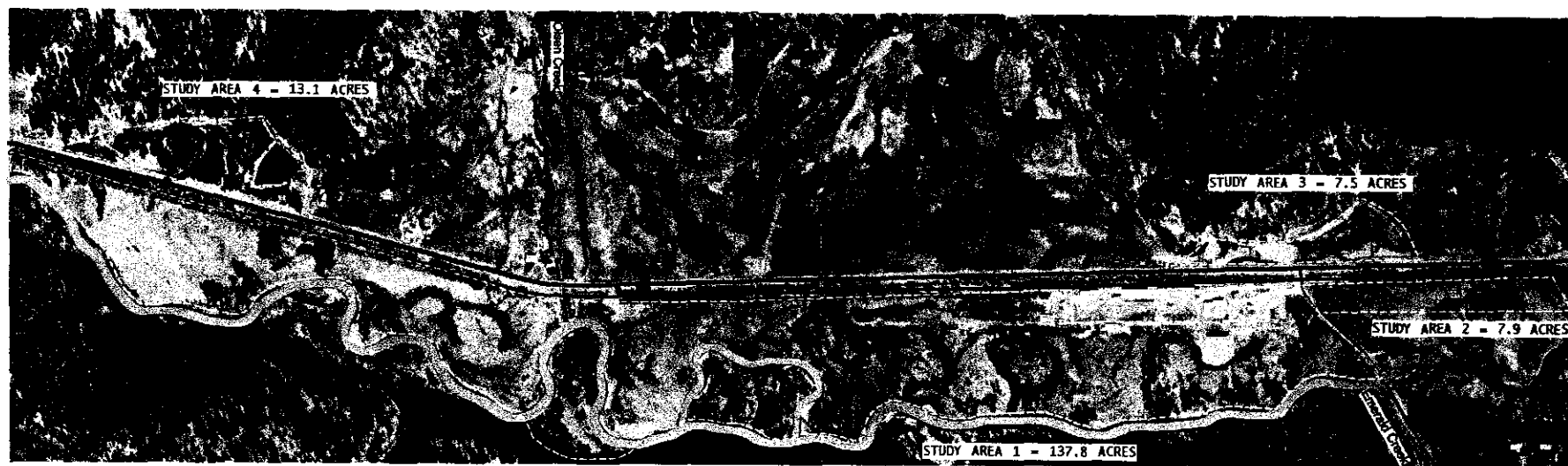


FIGURE 2:
PROJECT AREA
ST. MARIES RIVER STUDY AREAS
EMERALD CREEK GARNET LTD

Identification of wetlands involves reviewing preliminary data from diverse sources and collecting site-specific data on vegetation, soils, and hydrology.

PRELIMINARY FINDINGS

The following sources of pertinent background information were reviewed to assist in site-specific studies.

County Soil Survey

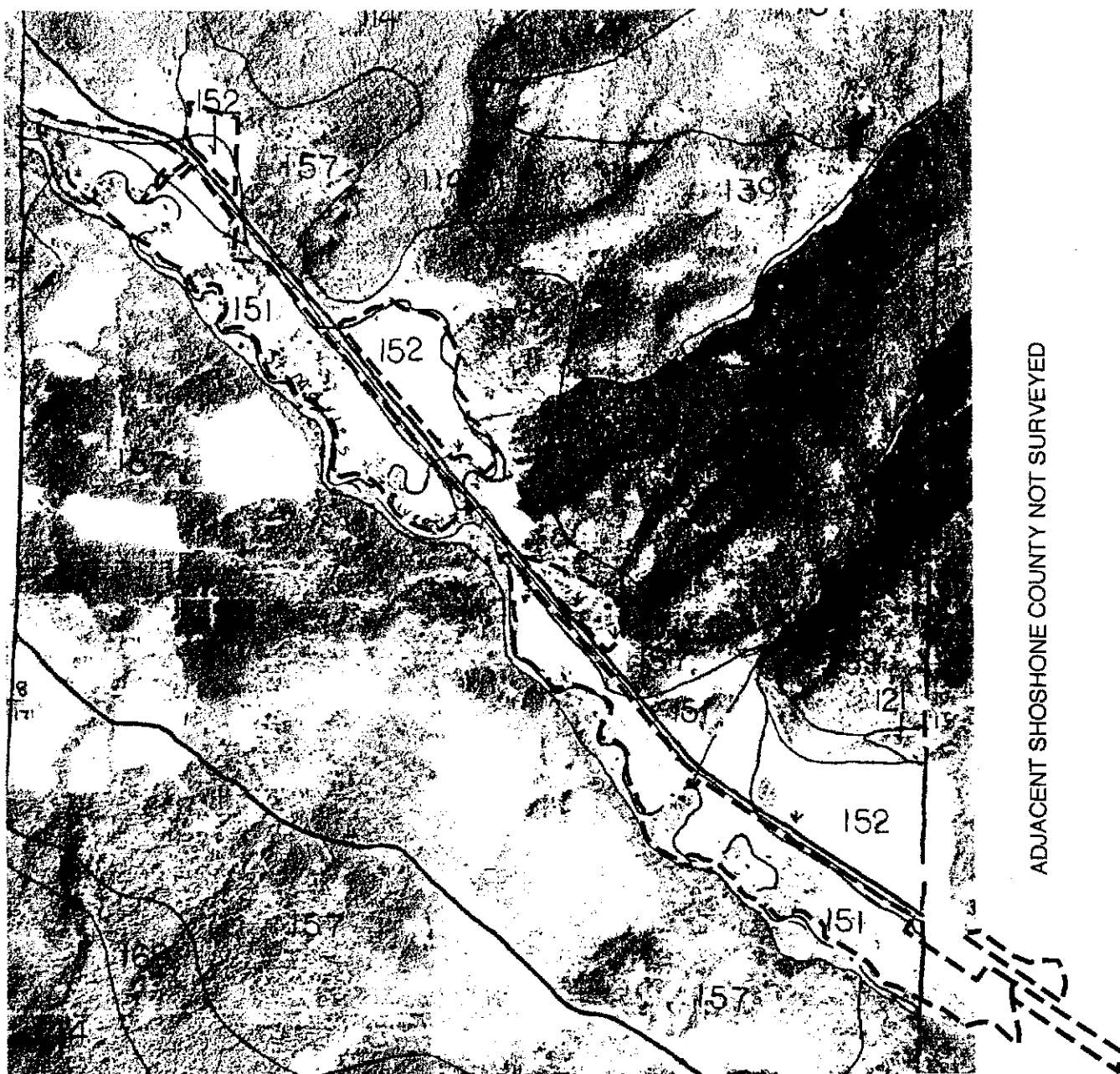
A published soil survey for this portion of Benewah and Shoshone counties is not available. Soils within the general area were preliminarily mapped by the USDA Natural Resource Conservation Service (NRCS) in the early 1990's. This information is available in draft form from the NRCS. Three soil map units were identified within the study areas, including (Figure 3),

- Map Unit 151 - Pokey-Typic Fluvaquents complex, 0 to 4 percent slope
- Map Unit 152 - Clarkia silt loam, 0 to 2 percent slope
- Map Unit 157 - Reggear silt loam, 3 to 20 percent slope

Map Unit 151 is 50 percent Pokey, 35 percent Typic Fluvaquents, and 15 percent contrasting inclusions. Pokey is a somewhat poorly drained soil formed in mixed alluvium on floodplains and low stream terraces. Typically, the surface horizon is a grayish brown (10YR 5/2) loam to 15 inches. The subsurface horizon is a pale brown (10YR 6/3) and light gray (10YR 7/2) loam and very fine sandy loam to 27 inches. The subsoil is a mottled light brownish gray (10YR 6/2) and light gray (10YR 7/2) loamy sand and coarse sand to more than 60 inches. Permeability is moderate in the upper 27 inches and rapid to very rapid below 27 inches. A seasonally high water table from 18 to 30 inches is present from February through June. Pokey is considered non-hydric by Hydric Soils of the United States (NTCHS 1995).

Typic Fluvaquents are very poorly drained soils formed in mixed alluvium in depressions and channels of floodplains, and on low stream terraces. Typically, the surface horizon is a mottled light brownish gray (10YR 6/2) fine sandy loam to 3 inches. The upper subsoil is a mottled light brownish gray (10YR 6/2) and light olive gray (5Y 6/2) stratified silt loam and loamy coarse sand to 37 inches. The lower subsoil is a light gray (10YR 7/1) stratified gravely coarse sand and extremely gravely coarse sand to 60 inches. Permeability is moderate in the upper 37 inches and very rapid below 37 inches. A seasonally high water table from 0 to 18 inches is present from February through June. Typic Fluvaquents are considered non-hydric by Hydric Soils of the United States (NTCHS 1995). Included in this map unit may be up to 15 percent contrasting inclusions. Non-hydric Clarkia, and hydric Mazie and Aquic Udifluvents are the potential inclusions.

Map unit 152 is 85 percent Clarkia and 15 percent contrasting inclusions. Clarkia is a poorly drained soil formed in mixed alluvium on floodplains, drainage ways, and low stream terraces. Typically, the surface horizon is a greyish brown (10YR 5/2) silt loam to 8 inches. The upper subsurface is a light yellowish brown (10YR 6/4) silt loam to 15 inches. The lower subsurface is a mottled very pale brown and white (10YR 7/3 and 8/2) silty clay loam to 32 inches. The subsoil is a mottled white and light gray (10YR 8/2 and 7/2) silty clay loam to 60 inches. Permeability is moderately slow. A seasonally high water table from 18 to 24 inches is present from February through June. Clarkia is considered non-hydric by Hydric Soils of the United States (NTCHS 1995). Included in this map unit may be up to 15 percent contrasting inclusions. Non-hydric Pokey and Helmer, and hydric Mazie are the potential inclusions.



ADJACENT SHOSHONE COUNTY NOT SURVEYED

Map Unit 151 - Pokey-Typic Fluvaquents complex, 0 to 4 % slope
 Map Unit 152 - Clarkia silt loam, 0 to 2 % slope
 Map Unit 157 - Reggear silt loam, 3 to 20 % slope



1:24000

1995 Hydric Soils

Pokey; non-hydric
 Fluvaquents; hydric
 Clarkia; non-hydric
 Reggear; non-hydric

FIGURE 3
COUNTY SOILS MAP
EMERALD CREEK GARNET, LTD
FERNWOOD, IDAHO

FROM: USDA Natural Resources Conservation Service, unpublished soil survey.

Map unit 157 is 85 percent Reggear and 15 percent contrasting inclusions. Reggear is a moderately well drained soil formed in loess deposits with minor amounts of volcanic ash on terraces. Typically, the surface horizon is a greyish brown (10YR 5/2) and yellowish brown (10YR 6/3) silt loam to 11 inches. The upper subsurface is a light yellowish brown (10YR 6/4) silt loam to 18 inches. The lower subsurface is a mixed light yellowish brown (10YR 6/4) and very pale brown (10YR 6/5) silt loam to 24 inches. The subsoil is a mixed light brown and very pale brown dense silty clay loam to 60 inches. Permeability is very slow. A seasonally perched water table from 18 to 36 inches is present from February through April. Reggear is considered non-hydric by Hydric Soils of the United States (NTCHS 1995). Included in this map unit may be up to 15 percent contrasting inclusions. Non-hydric Helmer, Sly, Agatha, Bobbitt, and Clarkia are the potential inclusions.

National Wetland Inventory

US Fish and Wildlife Service (FWS) has conducted an inventory of wetlands using remote sensing and aerial photograph interpretation. Their National Wetland Inventory (NWI) has identified the following wetlands in the study areas (Figure 4);

- PEM1A - palustrine emergent, persistent, temporarily flooded,
- PEM1C - palustrine emergent, persistent, seasonally flooded,
- PSS1A - palustrine scrub-shrub, broad leaved deciduous, temporarily flooded,
- PSS1C - palustrine scrub-shrub, broad leaved deciduous, seasonally flooded,
- PFO1C - palustrine forested, broad leaved deciduous, seasonally flooded, and
- R3OWH - riverine upper perennial, open water, permanently flooded.

The identified wetlands form an intricate, interdependent pattern across the floodplain landscape. The wetlands identified by NWI often vary from site-specific wetland delineations because FWS has used a two-parameter definition of wetlands (the COE uses a three-parameter definition), and because the inventoried wetlands are rarely verified on-site.

Aerial Photography

The study areas were flown and aerial photographs taken in March 1995. Color aeriels were developed at a scale of 1:15,840 for use in completing mining feasibility studies along the St. Maries River. Copies of these photos were used in the field for identifying and delineating wetlands and other important ecological features. The photos were also used as a base for wetland mapping in this report. Photographs were scanned on an Epson ES-800C scanner. Scanned images were imported into Canvas 3.5.5, arranged into a mosaic, and adjusted to provide a usable scale.

Historical Perspective

In addition to these three sources of information, the historical/cultural perspective of this geographic area is an important factor to consider when evaluating current site conditions. Natural and man-induced disturbances have had a significant role in these study areas. Logging, wild fires, agricultural practices, and livestock grazing the past 100 years have all influenced the plant communities and hydrology of these areas.

Logging activities started in the St. Maries basin in the late 1800's and was accelerated in the early 1900's following large wildfires. Logging removed the mature forest from the floodplains of the St. Maries River. Railroads were built along and across the floodplains. Creek water was diverted into sluices to transport logs. Splash dams were constructed along major rivers (including the St. Maries) and streams to impound water and hold logs. Dam floodgates were opened and a wall of water and logs rushed downstream, scouring the streambed and floodplain of substrate and woody material.

Extensive forest fires in 1912 severely altered the ecosystems of northern Idaho. Pictures from the 1920's show hill upon hill of standing dead and bare ground. Eighty-five years later, steep south-facing slopes are still heavily brushed and devoid of trees. Logging activities increased after the fires to salvage the standing dead, leaving little but bare ground for several years. Pictures from the late-1920's and 1930's show the same hills completely denuded.

Although studies on the quantitative effects of fires and logging may be available, it is easy to see the relatively catastrophic impacts associated with these disturbances. In general, the abrupt loss of vegetation promoted a marked increase in surface run-off into the St. Maries River and its tributaries. With this increased run-off and bare soil came an increased sediment load that promoted increased stream channel scour and eventual deposition. In these situations, stream channels frequently downcut from increased volume and bedload, becoming incised over time, and unable to access the floodplain. High flows associated with splash dams exacerbated channel degradation.

Vegetation in the floodplain recovered to some degree after salvage logging ended in the mid-1930's. Cottonwood became established as the dominant floodplain tree, and shrubs probably became the dominate vegetation. The demand for agricultural products during and after World War II initiated cattle grazing and farming of the St. Maries floodplain. Benewah and Shoshone counties are open range counties. Cattle have grazed the forests, meadows, and riparian areas annually for more than 50 years. Aerial photographs from 1955 show that extensive flat areas of the floodplain were annually cut for hay crops. In the 1990's, mechanical cropping is no longer occurring in the floodplains, but open range cattle grazing continues. Cattle grazing occurs annually from late May through October. Open range laws require very little monitoring of grazing, allowing cattle to concentrate in the floodplains and riparian corridors throughout the grazing season.

Most ecological viewpoints might consider cattle grazing a perturbation to the system being studied. That viewpoint is misleading, in this case. Cattle have been a constant, integral, and influential aspect of the St. Maries floodplain since salvage logging and splash dams ended in the mid-1930's. The extensive fires and salvage logging were events that severely setback the successional stage of the St. Maries riparian corridor. With the end of salvage logging, secondary succession initiated changes to the riparian areas, including the re-establishment of woody vegetation. This is supported by today's cottonwood having an average age of 70 years. Cattle were introduced into the riparian area as succession occurred. In this respect, cattle have been, and continue to be, an attribute of the riparian areas that is not easily separable from other successional attributes.

SITE-SPECIFIC FINDINGS

The following site-specific data were collected in over 200 hours of site investigation conducted in 1997 and 1998. The study areas were assessed throughout the 1998 growing season. Hydrology was directly observed in May and June, plant species and associations were identified in June, July, and August, and soil characteristics were described in August. Additionally, shallow groundwater monitoring sites were established and groundwater was monitored from November 1998 through June 1999. Observations were recorded at 55 circular data plots, each one-hundredth acre (0.01) in size. Field data sheets are found in Appendix D.

Vegetation

The riparian system adjacent to the St. Maries River is an interwoven complex of meadow, shrub, and forested plant communities. The present day communities are a reflection the historic natural and cultural disturbances described above. These disturbances have led to removal of woody vegetation, ditching, seeding, and cropping throughout most of the study areas. Typical floodplain geofluvial processes have also affected vegetation. They have created a varied micro-relief within the floodplain with numerous depressions, swales, historic channels, and truncated oxbows. This has led to a complex of varied plant associations described below.

Meadow Vegetation

Meadow vegetation varies from dry meadow to permanently inundated emergent channels and oxbows. Numerous plant associations have been identified in this community. The associations appear to occur on the landscape in direct response to micro-relief and hydrologic conditions.

The Foxtail-Fescue Association is dominated by meadow foxtail (*Alopecurus pratensis* - FACW), red fescue (*Festuca rubra* - FAC), and bentgrass (*Agrostis stolonifera* - FAC) with lesser amounts of quackgrass (*Agropyron repens* - FAC-), orchardgrass (*Dactylis glomerata* - FACU), and timothy (*Phleum pratense* - FAC-). Invasive and early seral species are present where the effects of grazing are greatest. These forbs include dandelion (*Taraxacum officinale* - FACU), white clover (*Trifolium repens* - FAC), oxeye daisy (*Chrysanthemum leucanthemum* - UPL), and tansy (*Tanacetum vulgare* - NI). Meadow foxtail has been extensively seeded for pasture improvement. This association is found on relative topographic highs that are dry early in the growing season. It is found throughout the study areas where woody vegetation has been removed and converted to hay crops or pastures. This association is dominated by Facultative (FAC) and Facultative Upland (FACU) species, and is considered non-hydrophytic in most locations.

The Foxtail-Canarygrass Association is dominated by meadow foxtail and reed canarygrass (*Phalaris arundinacea* - FACW) with lesser amounts of timothy, inflated sedge (*Carex vesicaria* - OBL), bentgrass, and white clover. Meadow foxtail has been extensively seeded for pasture improvement. This association is found in pastures, and in shallow depressions and swales. This association is dominated by Facultative Wetland (FACW) species, and is considered hydrophytic.

The Sedge-Water Plantain Association is dominated by water sedge (*Carex aquatilis* - OBL), big leaf sedge (*Carex amplifolia* - OBL), and American water plantain (*Alisma plantago-aquatica* - OBL) with lesser amounts of tufted hairgrass (*Deschampsia caespitosa* - FACW), giant burreed (*Sparganium eurycarpum* - OBL), creeping foxtail (*Alopecurus geniculatus* - OBL), fowl mannagrass (*Glyceria striata* - OBL), common cattail (*Typha latifolia* - OBL), and pondweed (*Potamogeton amplifolius* - OBL). This association is found in deeper swales and depressions that hold water at least half of the growing season. It is dominated by FACW and Obligate Wetland (OBL) species and is considered hydrophytic.

The Cattail-Sedge Association is dominated by common cattail, water sedge, and big leaf sedge with lesser amounts of fowl mannagrass, pondweed, and burreed. This association is found in deeper and/or isolated swales and oxbows that retain some standing water throughout the growing season. It is dominated by OBL species and is considered hydrophytic.

Shrub Vegetation

Shrub vegetation is found along the perimeter of well defined swales, depressions, and oxbows, and in uneven surfaces that have been scoured by flood flows. Two shrub associations have been identified in this community, each occurring on the landscape in response to different hydrologic conditions.

The Hawthorne/Canarygrass Association has a shrub layer dominated by Douglas' hawthorne (*Crataegus douglasii* - FAC) with lesser amounts of sapling black cottonwood (*Populus balsamifera* - FAC), red-osier dogwood (*Cornus sericea* - FACW), woods rose (*Rosa woodsii* - FAC-), and snowberry (*Symphoricarpos albus* - FACU). The ground layer is dominated by reed canarygrass with lesser amounts bentgrass, bluegrass (*Poa* spp. - FAC), white clover, and bracken fern (*Pteridium aquilinum* - FACU). This association is found adjacent to emergent swales and depressions and on uneven ground that is frequently scoured by flood flows. This community is dominated by FAC species and is considered hydrophytic.

The Dogwood/Sedge Association has a shrub layer dominated by red-osier dogwood and willows (*Salix exigua*, *S. scouleriana* - OBL, FAC) with lesser amounts of hawthorne, white alder (*Alnus incana* - FACW), and spirea (*Spiraea douglasii* - FACW) and cottonwood saplings. The ground layer is dominated by big leaf sedge and water sedge with lesser amounts of reed canarygrass, and fowl mannagrass. This association is found in shallow depressions and swales, on the edge of deeper swales and oxbows, and on gravel bars and low benches near the river's edge. It is dominated by FACW and OBL species and is considered hydrophytic.

Forested Vegetation

A forested plant community is found in patches throughout the study areas. Typically, two forested associations are present, one deciduous, the second coniferous.

The Cottonwood/Snowberry/Canarygrass Association has an overstory layer dominated by black cottonwood. In a few places, aspen (*Populus tremula* - FAC+) replaces cottonwood. The shrub layer is dominated by sapling cottonwood and snowberry with lesser amounts of woods rose and hawthorne. The ground layer is dominated by reed canarygrass and other representatives of the Hawthorne/Canarygrass Association. This association is found on uneven topographic highs that are scoured by flood flows, or are adjacent to depressions and swales. It is dominated by FAC species in most situations and is considered hydrophytic.

The Cedar/Snowberry/Bentgrass Association has an overstory layer dominated by western red cedar (*Thuja plicata* - FAC) with lesser amounts of lodgepole pine (*Pinus contorta* - FAC), subalpine fir (*Abies lasiocarpa* - FACU), and Englemann spruce (*Picea engelmannii* - FAC). The shrub layer is dominated by snowberry with lesser amounts of woods rose. The ground layer is dominated by scattered bentgrass and bluegrass. This association is found on level topographic highs. It is dominated by FAC and FACU species and is considered non-hydrophytic.

Soils

Site-specific soils were examined at 55 data plots throughout the study areas. Soil logs were advanced to a depth of 15 to 20 inches to determine hydric conditions at and immediately below the root zone. Soils were not examined to a sufficient depth to correlate observed soils to mapped soil series. Data sheets in Appendix D show site-specific soils information. Soils were considered hydric where long-term ponding was observed in June 1998, satisfying Hydric Soil Criteria 3 (USDA 1995). Soils were also considered hydric where evidence of reducing conditions (redoximorphic features) was observed below the root zone in soil logs in August 1998. In general, three types of soils were observed, two non-hydric and one hydric.

Non-hydric soils were observed on relative topographic highs and on flat areas within the active floodplain area. These soils were most often sandy near the surface and gravelly or cobbly at depth. These soils lacked redoximorphic features. The relatively coarse texture provides a permeability that precludes the development of reducing conditions. The relatively high topographic position provides no flood, or infrequent, short-term flood conditions.

Non-hydric soils were also identified on relative topographic highs northeast of the highway in historic floodplain and non-floodplain areas. These soils were most often silty near the surface and clayey at depth. These soils lacked redoximorphic features near the surface. The clayey subsoil promotes aquic conditions, but not reducing conditions near the surface. The relatively high topographic position provides no flood, or infrequent, short-term flood conditions.

Hydric soils were observed on topographic lows in the active floodplain and on flats in historic floodplain areas northeast of the highway. These soils had redoximorphic near or at the soil surface. They were also inundated during the early part of the growing season. Inundation was supplied by flood waters, stormwaters, and seasonally high groundwater.

Hydrology

Direct observation of hydrology was made in June 1998. At this time the St. Maries River was at bankful width, and all swales, depressions, and oxbows within the floodplain were at storage capacity. Wetland hydrology was observed over extensive portions of the study areas at this time. Observed hydrology comes from one of four sources; flood waters, river normal high flows, precipitation, and seasonally high groundwater.

The St. Maries River historically floods during January and February rain-on-snow events (Reeves 1999). This cyclic period provides a necessary hydrologic regime to sustain wetlands. Although flood periods usually occur out of the growing season, these floods provide a recharge of deeper aquatic habitats that are permanently, semi-permanently, and seasonally inundated. The truncated depressions and oxbows remain at storage capacity until evaporation and decreasing groundwater levels allow varying degrees of water loss. Swales and oxbows that have a surface connection to the river at normal high flows, drain as the river depths drop to low flow conditions in the early summer.

The St. Maries River typically experiences normal high flow conditions in March, through early June (Reeves 1999). High flow periods extend well into the growing season and provide hydrology for varying durations, depending upon floodplain accessibility. These flows also recharge deeper aquatic habitats that act as high flow channels during normal run-off periods. Hydrology from this source is maintained until the river depths drop to low flow conditions in the early summer.

Precipitation from storm events also provides wetland hydrology. This hydrologic support is important to shallow depressions that are isolated from flood flows and high flows, and are too shallow for seasonally high groundwater. This source of hydrology may not be apparent in dry spring months as observed in the 1999 hydrologic cycle. By June first, flood flows had not occurred and precipitation was below average. The St. Maries River remained at bankful discharge for over eight weeks without flooding. Depressions and oxbows that were accessible to high flows were inundated. However, many depressions that were inundated in the June 1998 were not saturated in early June 1999. Thus, spring precipitation is an important source of wetland hydrology for shallowly inundated and saturated wetlands.

Wetland hydrology also occurs from seasonally shallow groundwater. The NRCS has identified the following shallow groundwater conditions for each mapped soil;

- Pokey: 18 to 30 inches February through June; 30 to > 60 inches remainder of year,
- Typic Fluvaquents: 0 to 18 inches February through June; 18 to > 60 inches remainder of year,
- Clarkia: 18 to 24 inches February through June; 24 to > 60 inches remainder of year,
- Reggear: 18 to 36 inches February through April.

Four groundwater monitoring sites were identified to measure typical groundwater fluctuations over a hydrologic cycle (see Appendix C for data). Monitoring sites were established at four locations in upland, wetland, and river top-of-bank areas in the Pokey - Typic Fluvaquents Complex (Figure 5). Four-inch perforated pipe was installed to a depth equaling the depth of the Lake Clarkia clays using a mechanical augur. Perforated pipe was placed in the holes and sealed with bentonite clay. The pipes were back flushed and allowed to stabilize before readings were taken. Depth to shallow groundwater was measured weekly by ECG's Environmental Specialist.

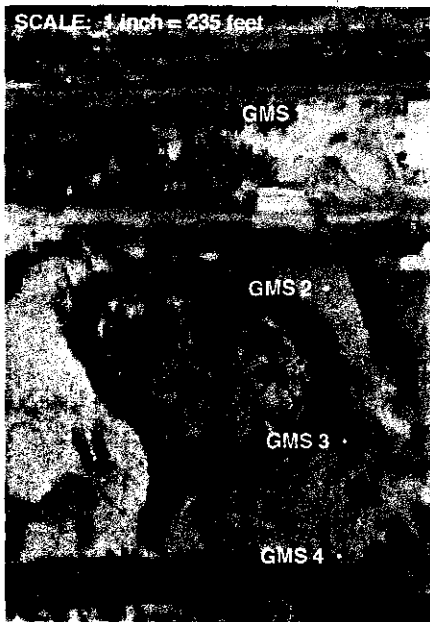
Groundwater levels varied with topographic position just before and during the early portion of the growing season. Between March 19 and May 8, 1999, groundwater levels in topographic lows varied from 0 to 17 inches. At the same time, groundwater levels in topographic highs varied from 20 to 42 inches. This data suggests that shallow groundwater contributes to wetland hydrology early in the growing season in topographic lows, including swales, depressions, and oxbows. Shallow groundwater does not appear to provide wetland hydrology in topographic high positions within the floodplain area. This interpretation is qualified by a relatively dry spring and a slow, gentle run-off period that lacked any type of long-term flood event. However, this interpretation is supported

by the presence and depth of redoximorphic features found in soil logs for these topographic positions.

In actuality, the hydrologic contributions described above cannot be so easily separated. They may interact uniquely over a period of years with varied flood flows, varied spring precipitation, and longer-term wet-dry cycles. Cumulatively, however, they provide a relatively predictable pattern of wetland hydrology at least 5 out of 10 years. That pattern is one of seasonally inundated oxbows, high flow channels, and deeper depressions and swales. The shallower depressions and swales will be inundated in springs with normal precipitation, much like 1998. In drier springs, such as 1999, shallower depressions and swales may lack wetland hydrology, or may only be saturated.

The net result is a diverse complex of hydrologic regimes within the active and historic floodplains. Saturated, seasonally flooded, semi-permanently flooded, and permanently flooded regimes all occur in a matrix within these study areas.

SCALE: 1 inch = 235 feet



LEGEND

STUDY AREAS	ST. MARIES RIVER
STREAMS	STATE HIGHWAY 3
	ST. MARIES RAILROAD

DEPTH TO GROUNDWATER (Inches)

SITE	EL.	HAB'T	12-2	12-10	12-17	12-28	01-7	01-13	01-22	10-28	02-5	02-12	02-22	03-5	03-12	03-19	03-26
GMS 1	995.9	UPL	47	40	38	43	43	34	13	34	35	32	30	26	27	28	29
GMS 2	994.6	UPL	46	41	38	36	32	30	22	28	44	30	31	19	20	21	18
GMS 3	992.6	PEM1E	31	28	25	20	23	20	12	18	22	20	22	04	07	08	02
GMS 4	992.7	T-O-B	43	38	34	19	31	28	22	30	32	30	32	16	17	18	UW*
SITE	EL.	HAB'T	04-2	04-9	04-17	04-23	04-30	05-8	05-15	05-21	05-28	06-4	06-11	06-18	06-25		
GMS 1	995.9	UPL	27	26	36	40	42	41	—	42	43	46	47	52	55		
GMS 2	994.6	UPL	20	19	31	33	36	38	—	40	41	42	44	45	48		
GMS 3	992.6	PEM1E	05	04	16	13	16	17	—	21	22	24	25	27	30		
GMS 4	992.7	T-O-B	28	27	20	09	17	20	—	21	19	21	22	30	30		

*UW = under water

SCALE: 1 inch = 700 feet



A wetland determination was made based on both preliminary and site-specific findings. Jurisdictional wetlands were identified using the following rationale.

DETERMINATION RATIONALE

The following rationale was used in making this determination.

Hydrophytic vegetation was determined present where the following plant associations were identified;

- Foxtail-Canarygrass Association,
- Sedge-Water plantain Association,
- Cattail-Sedge Association,
- Hawthorne/Canarygrass Association,
- Dogwood/Sedge Association, and
- Cottonwood/Snowberry/Canarygrass Association.

Hydric soils were determined present where the following soil conditions were identified;

- where long-term ponding was observed in June 1998, satisfying Hydric Soil Criteria 3, and
- where evidence of reducing conditions (redoximorphic features) was observed below the root zone in soil logs in August 1998.

Wetland hydrology was determined present where the following conditions were identified;

- where direct observation of saturation and ponding in June 1998 was determined to be present for at least 6 consecutive days (5% of the growing season).

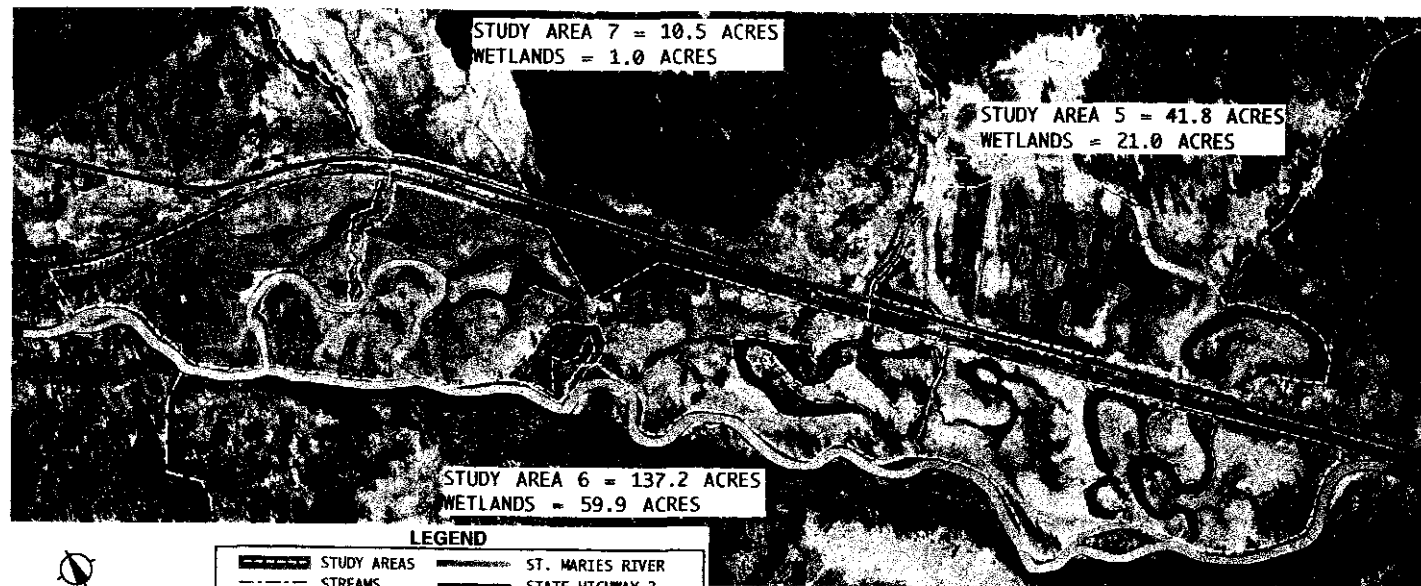
Wetlands were determined to be present where hydrophytic vegetation, hydric soils, and wetland hydrology were found to be simultaneously present during the growing season. Descriptions of these wetlands follows.

WETLAND DESCRIPTIONS

Wetlands, totaling 141.9 acres, were identified in the seven study areas (Figure 6 - small scale; Figure 6A - large scale). The identified wetlands form a mosaic of habitats across the landscape with emergent, scrub-shrub, and forested wetland components occurring in saturated, short-term inundated, semi-permanently inundated, and permanently inundated hydrologic conditions. Because of the complex nature of these wetlands, the best way to describe them is by utilizing the USFWS classification scheme (Cowardin et. al., 1979).

PEM1E Wetlands

These are palustrine emergent, persistent, seasonally flooded and saturated wetlands. They are the most prominent wetland in the study areas, totaling 54.7 acres, or 38.5 percent of the identified wetlands. These wetlands are represented by two different plant associations. The Foxtail-Fescue Association is found in shallow depressions and swales where typical inundation is 0 to 12 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and during the early portion of the growing season. The Foxtail-Canarygrass Association is found in deeper depressions and swales where typical inundation is 6 to 18 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and during the early portion of the growing season. These wetlands typically become dry during early summer (end of June) and lack wetland hydrology the remainder of the growing season.

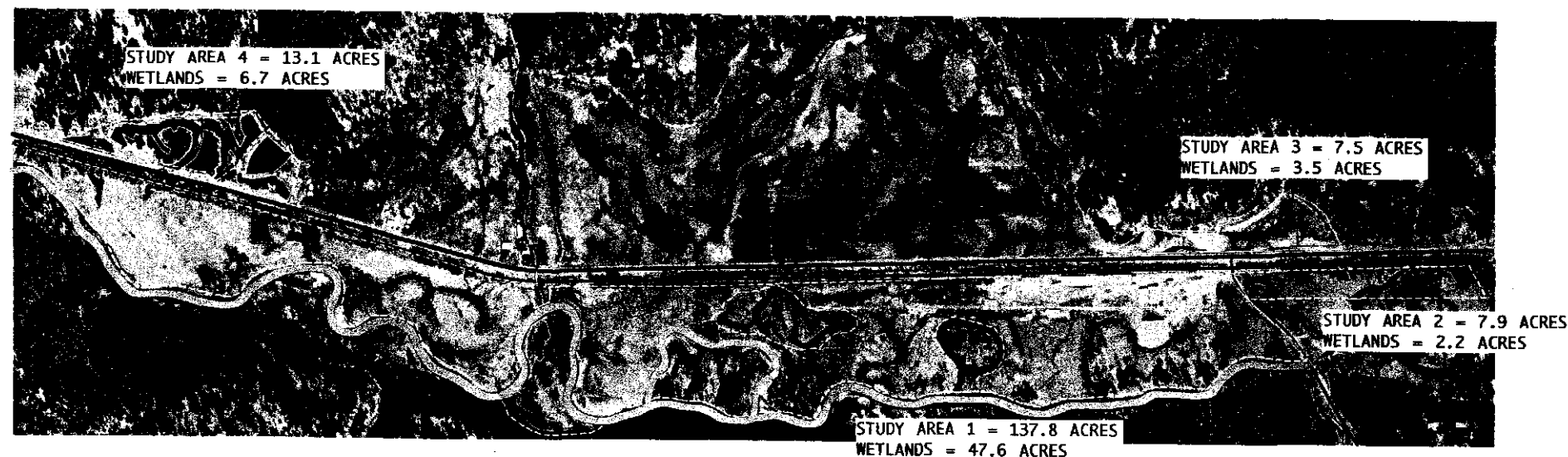


LEGEND

	STUDY AREAS		ST. MARIES RIVER
	STREAMS		STATE HIGHWAY 3
	WETLANDS		ST. MARIES RAILROAD
	HIGH VALUE WETLANDS		

SCALE: 1 inch = 700 feet

STUDY AREA	WETLAND EXTENT	TOTAL SIZE
1	47.6	137.8
2	2.2	7.9
3	3.5	7.5
4	6.7	13.1
5	21.0	41.8
6	59.9	137.2
7	1.0	10.5
TOTAL	141.8	355.8



PEM1Ef Wetlands

These are palustrine emergent, persistent, seasonally flooded and saturated wetlands that are farmed. 'Farmed' is defined by FWS as alteration of soil surface for production of crops. These are the second most prominent wetland in the study areas, totaling 22.0 acres, or 15.5 percent of the identified wetlands. These wetlands are represented by the Foxtail-Fescue Association, and are found in shallow depressions and swales where typical inundation is 0 to 12 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and during the early portion of the growing season. These wetlands typically become dry during early summer (end of June) and lack wetland hydrology the remainder of the growing season.

PEM1F Wetlands

These are palustrine emergent, persistent, semi-permanently flooded wetlands. They are a small component of the identified wetlands, totaling 6.1 acres, or 4.3 percent. These wetlands are represented by the Sedge-Water plantain Association, and are found in deeper swales and oxbows where typical inundation is 12 to 48 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and extends well into the hot summer months, but becomes dry before the end of the growing season.

PEM1H Wetlands

These are palustrine emergent, persistent, permanently flooded wetlands. These form a small wetland component in the study areas, totaling 4.3 acres, or 3.0 percent. They are represented by the Cattail-Sedge Association, and are found in the deepest swales and oxbows where typical inundation is 24 to 48 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and extends throughout the growing season.

PSS1E Wetlands

These are palustrine scrub-shrub, deciduous, seasonally flooded and saturated wetlands. They total 33.2 acres, or 23.4 percent of the overall wetlands. These wetlands are represented by the Hawthorne/Canarygrass Association, and are found in shallow depressions and uneven, scoured topographic highs where typical inundation is 0 to 12 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and during the early portion of the growing season. These wetlands typically become dry during early summer (end of June) and lack wetland hydrology the remainder of the growing season.

PSS1F Wetlands

These are palustrine scrub-shrub, deciduous, semi-permanently flooded wetlands. They are a small component of the identified wetlands, totaling 2.9 acres, or 2.0 percent. These wetlands are represented by the Dogwood/Sedge Association, and are found in swales, oxbow edges, and along the river margin where typical inundation is 6 to 24 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and extends well into the hot summer months, but becomes dry before the end of the growing season.

PFO1E Wetlands

These are palustrine forested, deciduous, seasonally flooded and saturated wetlands. They total 17.6 acres, or 12.4 percent of the overall wetlands. These wetlands are represented by the

Cottonwood/Snowberry/Canarygrass Association, and are found on uneven, scoured topographic highs where typical inundation is 0 to 12 inches. Wetland hydrology in this association is present in the spring, prior to the growing season, and during the early portion of the growing season. These wetlands typically become dry during early summer (end of June) and lack wetland hydrology the remainder of the growing season.

POWH Wetlands

These are palustrine open water, permanently flooded wetlands. They are the smallest wetland component found in the study areas, totaling 1.1 acres, or 0.8 percent of the overall wetlands. They are not vegetated. They typically are inundated more than 48 inches. Wetland hydrology is present in the spring, prior to the growing season, and extends throughout the growing season.

Except for the farmed wetlands, the wetlands described above are not separate wetlands, isolated from each other. They are components of one wetland system that extends the entire length of the study areas. They are separated physically in some areas by meadow and forested uplands. The wetlands are hydrologically linked seasonally by flood flows. The farmed wetlands are isolated from the other wetlands by highway and rail line berms. The following table summarizes the identified wetlands.

Wetland Summary Chart

Wetland	Acreage	Inundation	Dominant Plant Species
open water, permanently flooded - POWH	1.1	48+ in.	n/a
emergent, seasonally flooded/saturated - PEMIE	54.7	0 - 12 in. 6 - 18 in.	Alpr, Agst, Feru, Phar, Cave, Caam, Caaq, Phar
emergent, semi-permanently flooded - PEM1F	6.1	12 - 48 in.	Cave, Caaq, Caam, Phar
emergent, permanently flooded - PEM1H	4.3	24 - 48 in.	Cave, Tyla, Nulu, Speu
emergent, farmed - PEMif	22.0	0 - 12 in.	Alpr, Agre, Phar, Feru, Cave
scrub-shrub, seasonally flooded/saturated - PSSIE	33.2	0 - 12 in.	Crdo, Poba saplings, Agst, Phar
scrub-shrub, semi-permanently flooded - PSS1F	2.9	6 - 24 in.	Alin, Salix, Caaq, Cave, Phar
forested, seasonally flooded/saturated - PFO1E	17.6	0 - 12 in.	Poba, Crdo, Phar, Agst, Syal
TOTAL WETLANDS	141.9		

Wetlands are known to perform important functions that provide both environmental and social benefits. Adamus (1983) and Reppert (1979) have recognized several important wetland functions, including shoreline protection, hydrologic support, storm and flood water abatement, groundwater exchange, water quality improvement, and natural biologic functions. Appendix E contains a descriptive synthesis of Adamus' and Reppert's concepts.

SELKIRK ENVIRONMENTAL completed function and value work sheets for each wetland habitat during field studies. These work sheets are found in Appendix F. The wetland habitats identified earlier by FWS nomenclature were used as wetland components for this assessment. The following table outlines wetland functional values based on the concepts in Appendix E and on field data in Appendix D. The determination of low, moderate, or high is made by a simple analysis of the majority of boxes checked on the field forms. No attempt was made to weigh wetland functions or field observations as to relative importance.

Wetland Functional Values

Wetland Habitat	Shoreline Protection	Hydrologic Support	Storm/Flood Abatement	Groundwater Exchange	Water Quality Improvement	Biologic Support
PEM1E	n/a	moderate	moderate	low-moderate	moderate	low-mod
PEM1I	n/a	low	moderate	low-moderate	low	low
PEME1F	n/a	moderate	moderate	low-moderate	moderate	moderate
PEME1H	n/a	high	low	low-moderate	low-moderate	moderate
PSS1E	n/a	moderate	moderate	low-moderate	moderate	moderate
PSS1F	n/a	moderate	low-moderate	low-moderate	moderate	moderate
PFO1E	n/a	moderate	mod-high	low-moderate	low-moderate	moderate
POWH	n/a	high	low	low-moderate	low	low-mod
Overall	n/a	moderate	moderate	low-moderate	moderate	moderate

Numerous factors prevent these wetland habitats, individually or cumulatively, from having maximum values. Shoreline protection is given low values because the St. Maries riverine system was not included in the study areas, and none of the wetlands in the study areas extend to, or outward from, the river shoreline. Hydrologic support would require an open tidal system and/or permanent inundation for maximum value. Storm and flood water abatement would require greater woody plant density, greater dead storage, and/or an urban setting for maximum value. Groundwater exchange would require a permeable substrate and permanent, deep inundation for maximum value. Water quality improvement would require greater retention of overland flow and/or proximity to point discharge for maximum value. Biologic support would require complex special habitat features, unique species, intertidal hydrology, and/or adjacency to a significant fishery for maximum value.

The overall rating is that of a moderately valuable wetland. This rating is relative to the 'perfect' wetland that would have maximum values. The interpretation is somewhat misleading since the 'perfect' wetland does not exist on any given landscape. The St. Maries River wetlands, within the study areas, are constrained from having maximum values since they are not tidal, are not near point discharge, are not urban, and have an impermeable substrate. Within these constraints, this wetland complex has significant value by providing essential hydrologic support to the base flow of the St. Maries River, by providing flood storage and abatement for downstream homes and small towns, by providing sediment trapping functions for upstream resource extraction activities on both public and private lands, and by providing a complex mosaic of terrestrial and aquatic niches for flora and fauna throughout the food triangle.

Within the context of a moderately valued wetland, specific areas within the wetland complex may be considered as generally low value and others as generally high value. The low value areas are the farmed wetlands where

there is relatively short-term hydrology and a broad expanse of emergent vegetation lacking shrubs or trees. Edge effect is not present and the dominant plant species are seeded pasture grasses. The high value areas would be those areas where shallow and deep emergent, and shrub and tree species inter-finger, providing a maximum edge effect and diversity of habitats in a small space. The same high value may be assigned where the spectrum of hydrologic conditions from seasonally shallow to permanently deep inundation can be found in close proximity. These relatively high value areas are in the active floodplain and are highlighted in Figures 6 and 6A.

The functional value rating system provides a means of assessing wetland reclamation limitations and possibilities. Reclamation is required as a condition of the proposed mining activity. In the process of reclamation, opportunities exist to enhance, or maximize, wetland functions. Limitations to enhancement include;

- shoreline protection since the river and shoreline are not in the study areas,
- hydrologic support since the system is non-tidal,
- storm and flood water abatement since the system is not urban,
- groundwater exchange since the area has an impermeable layer of Clarkia clay,
- water quality improvement since the system is not downstream of point discharge,
- water quality improvement since the system is not an estuary or perennial stream,
- biologic support since the system is not intertidal, and
- biologic support since the system is not adjacent to a significant fishery.

In spite of these limitations, numerous functions may be enhanced by increasing different wetland components during reclamation design and implementation. These include;

- hydrologic support by increasing the permanently saturated/inundated component,
- storm and flood water abatement by increasing the percent and density of woody vegetation,
- storm and flood water abatement by increasing the dead storage capacity,
- groundwater exchange to a limited degree by increasing the permanently flooded component,
- water quality improvement by increasing the overall vegetation density,
- water quality improvement by increasing the retention of overland flow, and
- biologic support by adding special habitat features.

Including any or all of the above in reclamation designs would increase the value of the reclaimed wetland system beyond the existing conditions. Other, cultural practices, may also be considered as a means of increasing the value of this wetland system. The study areas are grazed throughout the summer months annually. Utilization of fencing, riparian corridor easements, or other exclusionary practices, would reduce or eliminate grazing. This would allow the natural system to reach 'full expression' on an annual basis, and on a successional basis. This may provide the opportunity for use by, or establishment of unique and/or water dependent species over time.

APPENDIX A: CITATIONS

- Adamus, P.R., 1983. A method for wetland functional assessment. Volumes I and II. Federal Highway Administration.
- Cowardin, L. M., et. al., 1979. Classification of Wetlands and Deepwater Habitats of the United States. USDI Fish and Wildlife Service.
- Department of the Army, 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. Waterways Experiment Station.
- Davis, R.J., 1952. *Flora of Idaho*. Idaho State College. William C. Brown and Company.
- Hitchcock, C. L., et. al., 1977. *Vascular Plants of the Pacific Northwest*. University of Washington Press.
- Reeves, T., 1999. Personal communication re: unpublished St. Maries River basin modeling.
- Reppert, R.T., et. al., 1979. Wetland values: Concepts and Methods for Wetland Evaluation, Report 79-R-1. US Army Corps of Engineers.
- USDA Natural Resources Conservation Service, 1995. Hydric Soils of the United States. National Technical Committee for Hydric Soils.
- USDI Fish and Wildlife Service, 1979. Classification of Wetlands and Deep Water Habitats of the United States.
- USDI Fish and Wildlife Service, 1987. National Wetland Inventory, Fernwood SE Quadrangle.

APPENDIX B: DELINEATION METHODOLOGY

Wetland investigations on the subject property were undertaken utilizing the *Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-87-1). *Hydric Soils of the United States* (NCHS, NRCS, 1995) acts as a supplement to the COE manual, and is used for determining hydric soils. Analysis of wetlands on-site involves collecting preliminary data and conducting a site-specific investigation. Preliminary investigation includes a site reconnaissance as well as a background literature review. Site-specific data is collected on-site, analyzed, and reported.

Preliminary Data Review

The following published literature was reviewed to identify potential wetland areas after a reconnaissance site review was completed;

- Unpublished Soil Survey of Benewah County, USDA Natural resource Conservation Service (NRCS),
- National Wetland Inventory, Fernwood SE Quadrangle 1:24000, USDI Fish and Wildlife Service. 1987;
- Color aerial photographs 1:15840, Emerald Creek Garnet, LTD., April 1995.

Soil survey and National Wetland Inventory information are presented as Figures 3 and 4, respectively, in this report. This information was reviewed to identify potential wetland areas prior to extensive site investigations. Aerial photos were also reviewed to assess potential wetland areas. Pre-typing of wetlands was not done on the photos. Photo characteristics including topographic position, drainage patterns, darker or black soils suggestive of saturation, cropping mechanisms, and vegetation typing were all considered in photo interpretation. Aerial photos were available for review during site-specific investigations. Aerial photos appear as a base for the wetland delineation figures.

Site-specific Investigation

A field investigation for the presence and extent of jurisdictional wetlands was conducted in 1997 and 1998. The study areas were assessed throughout the 1998 growing season in May and June, July, and August. Additionally, shallow groundwater monitoring sites were established and groundwater was monitored from November 1998 through May 1999. Fifty five 11.8-foot radius (0.01 acre) data plots were established throughout the study areas to determine the presence and extent of hydrophytic vegetation, hydric soils, and wetland hydrology. Plant species on the site were identified (Hitchcock and Cronquist, 1973) and soils logs were advanced. At each plot, direct observation of each criterion was recorded to evaluate the presence of each criterion. Plant species were verified through floral characteristics during the June site visit. Criteria are evaluated by describing observations of existing conditions to determine whether or not the definition of each criterion is satisfied.

Hydrophytic vegetation is defined as *the sum total of macrophytic plant life that occurs where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present*. Emphasis is placed on the assemblage of plant species that exert a controlling influence on the character of the plant community, rather than on indicator species. The test of this definition is met when data plots indicate that the plant community is dominated by hydrophytes. Vegetation at each plot is considered hydrophytic (adapted to anaerobic conditions) when over 50% of the dominant plant species had an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL) (Reed, 1988, revised 1994). Plant species present in each plot are listed and their percent cover within the 0.01-acre plot determined by ocular observation. Cover percentage is assigned to cover classes, and the species ranked according to the midpoints of their respective cover classes. The midpoints of ranked species are cumulatively summed until 50 percent of the total for all species' midpoints is immediately exceeded. All species

contributing to that cumulative total plus any species having 20 percent of the total midpoint value are considered dominants. Plant indicator status is then assigned each dominant to determine the percent of hydrophytes.

Hydric soil is defined as soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. In accordance with the methodology, soil samples were then taken at all data plots as well as other points on the site. The test of this definition is met at this portion of the growing season when direct observation of inundation or surface saturation was made. Duration of flooding, ponding, or saturation is also important. Hydric soils must be flooded or ponded for long (7 to 30 days) or very long (more than 30 days) duration during the growing season. Hydric soils must be saturated in the upper part for a significant period (usually more than two weeks) during the growing season. The duration requirement was satisfied because inundation or saturation observed at this time was assumed to have been present continuously since the beginning of the growing season. The National Technical Committee on Hydric Soils (NTCHS) established the following criteria in 1995 for hydric soils.

- 1) All Histosols except Folists, or
- 2) Soils in Aquic suborder, Aquic subgroups, Albolls suborder, Salorthids great group, Pell great groups of Vertisols, Pachic subgroups, or Cumulic subgroups that are:
 - a) Somewhat poorly drained and have a frequently occurring water table at the surface for a significant period (usually more than 2 weeks) during the growing season, or
 - b) Poorly drained or very poorly drained and have either:
 - 1) frequently occurring water table at the surface for a significant period (usually more than 2 weeks) during the growing season if textures are coarse sands, sands, or fine sand in all layers within 20 inches, or for other soils,
 - 2) frequently occurring water table within 0.5 feet of the surface for a significant period (usually more than 2 weeks) during the growing season if permeability is equal to or greater than 6.0 inches/hour in all layers within 20 inches, or
 - 3) frequently occurring water table within 1.0 feet of the surface for a significant period (usually more than 2 weeks) during the growing season if permeability is less than 6.0 inches/hour in a layer within 20 inches, or
3. Soils that are frequently ponded for long or very long duration during the growing season, or
4. Soils that are frequently flooded for long or very long duration during the growing season.

At all data plots, unlined bore holes were advanced to approximately 20 inches. Bore holes were examined for subsurface soil characteristics and for water tables at or near the soil surface. Based on the NTCHS criteria, saturation to the surface was determined when a water table in an unlined bore hole was at the depths specified above.

Wetland hydrology is defined as *all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season*. Areas with evident characteristics of wetland hydrology are those areas where the presence of water has an overriding influence on characteristics of vegetation and soils because of anaerobic and reducing conditions, respectively. The test of this definition is met when data plots show direct observation of wetland hydrology, or a sufficient number of apparent indicators, including indirect evidence of flooding, ponding, or saturation in the upper 12 inches, water marks, drainage patterns, root rhizospheres, water-stained leaves, and sediment deposits. Duration of hydrologic conditions creating anaerobic and reducing conditions must also be satisfied. Wetland hydrology must be present for 5 percent of the growing season in terms of consecutive days, or 12.5 percent of the growing season in terms of cumulative days.

Jurisdictional wetlands were determined where vegetation, soils, and hydrology all reflect hydric conditions as defined above. The boundaries of the wetlands were delineated on 1 inch = 150 feet, scanned images of the color aerial photos supplied by ECG.

APPENDIX C: GROUNDWATER WELL DATA

Monitoring Well Data

M.W. # 98-1

- 800 feet from OHW

CWS-1

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Tc	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
12/2/98 CST	intermittent rains 40° F	2.28 ft.	6.21 ft.	3.93 ft.	995.9'	991.97'
12/10/98 CST	overcast 30°s	2.28 ft.	5.60 ft.	3.32 ft.	995.9'	992.58'
12/17/98 CST	clear high 20°s	2.28 ft.	5.53 ft.	3.25 ft.	995.9'	992.65'
12/28/98 CST	sleet w/ chunok winds 40°s	2.28 ft.	5.83 ft.	3.55 ft.	995.9'	992.35'
1/07/99 CST	light sprinkles w/ sleet High 30°s	2.28 ft.	5.83 ft.	3.55 ft.	995.9'	992.35'
1/13/99 CST	mild, clear 40°s	2.28 ft.	5.10 ft.	2.82 ft.	995.9'	993.08'
1/22/99 CST	intermittent sleet 30°s	2.28'	4.41'	1.13'	995.9'	994.77'
1/28/99 CST	mild, clear 40°s	2.28'	5.06'	2.78'	995.9	993.12'
		2.28'			995.9	

Count in
32/11/1
w/ 7/1/98

Monitoring Well Data

M.W. # 98-1

DATE	Weather Conditions	Casing Stick Up	Measured Depth* To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
2/5	Sunny 3 50°	2.28'	5.15'	2.87'	995.9'	993.03'
2/12	OVERCAST 3 40'S	2.28'	4.97'	2.69'	995.9'	993.21
2/22/99 CSB	overcast 30'S	2.28'	4.82'	2.54'	995.9	993.36'
2/26/99	*	2.28'			995.9	
3/05/99	overcast 1" fresh snow	2.28'	4.44'	2.16'	995.9'	993.74'
3/12/99	overcast 30'S	2.28'	4.51'	2.23'	995.9'	993.67'
3/19/99	clear 40'S	2.28	4.58'	2.30'	995.9'	993.60'
3/20/99 CSB	clear 30-40'S	2.28	4.70'	2.42'	995.9'	993.18'
4/02/99 CSB	clear 50'S	2.28	4.57'	2.29'	995.9'	993.61'

* sent immediately to Mike Carroll
I forgot to record it.

Monitoring Well Data

M.W. # 98-1

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
4/09/99 CSO	Sunny 50's	2.28'	4.43'	2.15'	995.9'	993.75'
4/17/99	Clear 50's	2.28'	5.28'	3.00'	995.9'	992.9'
04/29/99	Clear 50's	2.28'	5.58'	3.30'	995.9'	992.60'
4/30/99	OVERCAST Light Rain	2.28'	5.77'	3.49'	995.9'	992.41'
5/8/99	OVERCAST 30-40's 50's	2.28'	5.71'	3.43'	995.9'	992.47'

P. 06

MAY-11-99 TUE 14:14

Monitoring Well Data

GWS-1

M.W. # 98-2

470 ft from OHW

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
12/2/98 CST	intermittent rains 40°s F	2.02 ft.	5.81 ft.	3.79 ft.	994.6'	990.81'
12/10/98 CST	overcast 30°s	2.02 ft.	5.39 ft.	3.37 ft.	994.6'	991.23'
12/17/98 CST	clear high 20°s	2.02 ft.	5.26 ft.	3.24 ft.	994.6'	991.36'
12/28/98 CST	Sleet w/ chinook winds 40°s	2.02 ft.	4.98 ft.	2.96 ft.	994.6'	991.64'
1/07/99 CST	light sprinkles w/ sleet high 30°s	2.02 ft.	4.73 ft.	2.71 ft.	994.6'	991.89'
1/13/99 CST	mild, clear 40°s	2.02 ft.	4.54 ft.	2.52 ft.	994.6'	992.08'
1/22/99 CST	intermittent sleet 30°s	2.02'	3.79'	1.77'	994.6'	992.83'
1/28/99 CST	mild, clear 40°s	2.02'	4.32'	2.30'	994.6'	992.3'
		2.02'			994.6'	

Monitoring Well Data

M.W. # 98-2

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
4/09/99 CSG	Sunny 50°S	2.02'	3.62'	1.60'	994.6'	993.00'
4/17/99	Clear 50°S	2.02'	4.58'	2.56'	994.6'	992.04'
4/23/99	Clear 50°S	2.02'	4.80'	2.78'	994.6'	991.82'
4/30/99	Overcast light Rain 50°S	2.07'	5.00'	2.98'	994.6'	991.62'
5/8/99	Overcast Snow 50°S	2.02'	5.04'	3.02'	994.6'	991.58'

Monitoring Well Data

M.W. # 98-3

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
2/5	Sunny 3 50°	3.12'	4.91'	1.79'	992.6'	990.81'
2/12	OVERCAST 40's	3.12'	4.80'	1.68'	992.6'	990.92'
2/22/99 CSE	overcast 30's	3.12'	4.92'	1.80'	992.6'	990.80'
2/26	★	3.12'			992.6'	
3/05/99	overcast 1" fresh snow	3.12'	3.46'	.34'	992.6'	992.26'
3/12/99	overcast 30's	3.12'	3.73'	.61'	992.6'	991.99'
3/19/99	clear 40's	3.12'	3.80'	.68'	992.6'	991.92'
3/26/99	clear 30's-40's	3.12'	3.24'	.12'	992.6'	992.48'
4/02/99	clear 50's	3.12'	3.53'	.41'	992.6'	992.19'

★ sent to M. Carroll w/o
recording

Monitoring Well Data

M.W. # 78-3

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
4/09/99 CSC	Sunny 50's	3.12'	3.46'	.34'	992.6'	992.26'
4/17/99	Clear 50's	3.12'	4.46'	1.34'	992.6	991.26'
4/23/99	Clear 50's	3.12'	4.25'	1.13'	992.6'	991.47'
4/30/99	OVERCAST light rain 50's	3.12'	4.43'	1.31'	992.6	991.29'
5/06/99	OVERCAST show 50's	3.12	4.57'	1.45'	992.6	991.15'

Monitoring Well Data

M.W. # 98-4

15' from OHW

CMS-4

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
12/2/98 CJO	intermittent rains 40's F	2.65 ft.	6.26 ft.	3.61 ft.	992.7'	989.09'
12/10/98 CJO	overcast 30's	2.65 ft.	5.61 ft.	2.96 ft.	992.7'	989.74'
12/17/98 CJO	clear High 20's	2.65 ft.	5.47 ft.	2.82 ft.	992.7'	989.88'
12/29/98 CJO	sleet w/ chinook winds 40's	2.65 ft.	4.29 ft.	1.64 ft.	992.7'	991.06'
1/07/99 CJO	light sprinkles w/ sleet High 30's	2.65 ft.	5.23 ft.	2.58 ft.	992.7'	990.12'
1/13/99 CJO	mild, clear 40's	2.65 ft.	4.94 ft.	2.29 ft.	992.7'	990.41
1/22/99 CJO	intermittent sleet 30's	2.65'	4.45 ft.	1.80'	992.7'	990.90
1/28/99 CJO	mild, clear 40's	2.65'	5.13'	2.48'	992.7'	990.22'
		2.65'			992.7'	

Sent in
1/11/99

Monitoring Well Data

M.W. # 98-4

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
2/5	Sunny 3 50°	2.65'	5.35'	2.70'	992.7'	990.0
2/12	OVERCAST 3 40'S	2.65'	5.20'	2.55'	992.7'	995.15
2/22/99 CSG	overcast 30'S	2.65'	5.33'	2.68'	992.7'	990.02
		2.65'			992.7'	
		2.65'			992.7'	
		2.65'			992.7'	
		2.65'			992.7'	
		2.65'			992.7'	
		2.65'			992.7'	

Monitoring Well Data

M.W. # 284

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
2/5	Sunny 3 50°	2.65'	5.35'	2.70'	992.7'	990.0
2/12	OVERCAST 40'S	2.65'	5.20'	2.55'	992.7'	995.15
2/22/99 CSG	overcast 30'S	2.65'	5.33'	2.68'	992.7'	990.02
2/26/99 CSG	★	2.65'			992.7'	
3/05/99 CSG	overcast 1" of fresh snow	2.65'	4.00'	1.35'	992.7'	991.35'
3/12/99	overcast 30'S	2.65'	4.07'	1.42'	992.7'	991.28'
3/19/99	clear 40'S	2.65'	4.12'	1.47'	992.7'	991.23'
3/26/99 CSG	clear 30'S - 40'S	2.65'	river flooding	river flooding	992.7	river flooding
4/02/99 CSG	clear 50'S	2.65'	4.96'	2.31'	992.7	990.39'

sent to M. Carroll accidentally
w/o recording

Monitoring Well Data

M.W. # 98-4

DATE	Weather Conditions	Casing Stick Up	Measured Depth To Water From Toe	Depth To Water Below Ground Surface	Ground Surface Elevation	Ground Water Elevation
4/09/99	Sunny 50's	2.65'	4.87'	2.22'	992.7	990.48'
4/17/99	Clear 50's	2.65'	4.35'	1.70'	992.7	991.00'
4/23/99	Clear 50's	2.65'	3.49'	0.79'	992.7	991.91'
4/30/99	Overcast Light Rain 50's	2.65'	4.05'	1.40'	992.7	991.30'
5/8/99	Overcast Clear 50's	2.65'	4.29'	1.64'	992.7	991.06'

APPENDIX D: DELINEATION FIELD DATA SHEETS

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDENS CO</u>	County: <u>Bernese</u>
Investigator: <u>SELIX ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the site significantly disturbed (Atypical Situation)? <u>HAY LAND</u>	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-18</u>

[illegible]

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clarks Silt Loam 0-2% Drainage Class: POOR
 Taxonomic Classification: Fine silty mixed fine Aquentic Entisol On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-13		10YR 2/1	7.5YR 4/5	Rare	Silt Loam
13-18+		10YR 4/2	7.5YR 4/5	Occasional	Loamy Sand

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: HYDRIC BASED ON REDOXIMORPHIC FEATURES

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	<h3>Wetland Hydrology Indicators:</h3> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<h3>Field Observations:</h3> <p>Depth of Surface Water: <u>0-5</u> inches</p> <p>Depth to Free Water in Pit: <u>n/o</u> inches</p> <p>Depth to Saturated Soil: <u>n/o</u> inches</p>	<p>Secondary Indicators (2 or more required):</p> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Rationale: <u>ALL CRITERIA ARE SATISFIED</u>	

Project/Site: <u>ST MARYS RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GADGET CO</u>	County: <u>Bernatch</u>
Investigator: <u>SELRICK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the site significantly disturbed (Atypical Situation)? <u>Hayland</u>	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-19</u>

[illegible]

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clarke Silt Loam 0-2% Drainage Class: poor
 Taxonomic Classification: fine silty mixed friid Aquentic Endoaqualt On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 2/1	7.5YR 4/4	RARE	Silt Loam
12-18		10YR 4/1	7.5YR 4/5	Common	Silt Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: HYDRIC BASED ON PEDOMORPHIC FEATURES.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-8</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Data Plot within a wetland?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Hydric Soils Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No		
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes <input type="radio"/> No		
Rationale: <u>ALL CRITERIA ARE SATISFIED.</u>			

Project/Site: <u>ST. MARIES RIVER</u>	Date: <u>6-7-0</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Benedict</u>
Investigator: <u>SEKIRY ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the site significantly disturbed (Atypical Situation)?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the area a potential Problem Area? <u>HAY LAND</u>	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-20</u>

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Abies procumbens</i>	* FACW	80	6	85.5	1
<i>Potentilla gracilis</i>		10	2	10.5	
<i>Festuca pratensis</i>		5	1	3	
				<hr/>	
				99	
<i>Betula gland</i>		10			
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Clarks Silt Loam 0-2%</u>		Drainage Class: <u>POOR</u>	
Taxonomic Classification: <u>Fine Silty mixed frict Aquatic Endoaqualf</u>		On Hydric Soils List? Yes <input type="radio"/> No <input checked="" type="radio"/>	

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/2	7.5YR 4/5	RARE	Silt Loam
8-16+		10YR 6/3	—	—	Silt

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks: HYDRIC BASED ON SIGNS/OBSERVATION OF INUNDATION IN EARLY SPRING (NRCS CRITERIA 3)

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available </p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p style="margin-left: 20px;"> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands </p> <p>Secondary Indicators (2 or more required):</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) </p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-5</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

<p>Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>
<p>Rationale:</p> <p style="font-size: 1.2em;">All CRITERIA ARE SATISFIED.</p>	

SOILS

Map Unit Name (Series and Phase): Clarke Silt Loam 0-2 10 Drainage Class: Page
 Taxonomic Classification: Fine Silty mixed Grnd Aquic Endonca On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11	A11	10YR 3/1	—	—	Silt loam
11-17+	A12	10YR 4/1	—	—	Silt loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: BASED ON OTHER SOIL LOGS, THIS IS NOT HYDRIC. THE 10YR 4/1 SUBSURFACE REFLECTS A DEEP SURFACE "A" HORIZON.

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input checked="" type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? Yes <u>No</u>
Hydric Soils Present? <u>Yes</u> <u>No</u>	
Wetland Hydrology Present? <u>Yes</u> <u>No</u>	

Rationale:

TWO CRITERIA ARE LACKING.

Project/Site: <u>ST MARYS RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET CO</u>	County: <u>Bernice</u>
Investigator: <u>SEKICK ENVIRONMENTAL</u>	State: <u>ND</u>
Do Normal Circumstances exist on the site?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the site significantly disturbed (Atypical Situation)?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-22</u>

[illegible]

Remarks:

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Clarkia Silt Loam 0-1e</u>				Drainage Class: <u>Poor</u>	
Taxonomic Classification: <u>Fine silty mixed friable Aquodic Endoaqualf</u>				On Hydric Soils List? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/1	—	—	Silt Loam
8-11		10YR 4/2	—	—	Silt Loam
11-18+		10YR 4/3	—	—	Silt
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks:					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Data Plot within a wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Rationale: <div style="font-size: 1.2em; margin-top: 10px;">TWO CRITERIA ARE LACKING.</div>	

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MARYS RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Bonewah</u>
Investigator: <u>SEKIER ENVIRONMENTAL</u>	State: <u>IN</u>
Do Normal Circumstances exist on the site? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <u>Hay Lake</u> <input checked="" type="radio"/> Yes <input type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>m-23</u>

VEGETATION

[illegible]

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clackia Silt Loam 0-2% Drainage Class: poor
 Taxonomic Classification: Fine silty mixed friid Aquic Endosqual On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 2/2	—	—	Silt Loam
6-9		10YR 2/2	7.5YR 4/4	Rare	Silt Loam
9-17+		10YR 5/3	7.5YR 4/5	Common	Silt Loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: HYDRIC BASED ON OBSERVATION OF INUNDATION (NTCHS CRITERIA 3).

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-8</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No	Is this Data Plot within a wetland?	<u>Yes</u> No
Hydric Soils Present?	<u>Yes</u> No		
Wetland Hydrology Present?	<u>Yes</u> No		
<p>Rationale:</p> <p><u>All Criteria are Satisfied.</u></p>			

WETLAND DETERMINATION

Project/Site: <u>ST. MARIES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET CO</u>	County: <u>Benewah</u>
Investigator: <u>SOULIER ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No <input type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>M-24</u>

VEGETATION

[illegible]

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Clarksia Silt Loam 0-2 7a</u>				Drainage Class: <u>Poor</u>	
Taxonomic Classification: <u>Fine Silty mixed Inacid Aquandic Enticqualf</u>				On Hydric Soils List? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-13		10YR 2/1	7 1/2 YR 4/5	Few	Silt Loam
13-18+		10YR 5/2	7 1/2 YR 4/5	Common	Silty Clay Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-10</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Rationale: <p style="font-size: 1.2em;">All Criteria are Satisfied.</p>	

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Bonewah</u>
Investigator: <u>SEKIRY ENVIRONMENTAL</u>	State: <u>IN</u>
Do Normal Circumstances exist on the site?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the site significantly disturbed (Atypical Situation)?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-25</u>

[illegible]

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Clark Silt Loam 0-2⁵/₁₆</u>				Drainage Class: <u>POOR</u>	
Taxonomic Classification: <u>Fine Silty mixed friable Aquatic Entic aqualf</u>				On Hydric Soils List? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		6YR 2/1	—	—	Silt loam
8-16+		6YR 4/1	7 1/2 YR 4/5	2A22	Silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-10</u> inches</p> <p>Depth to Free Water in Pit: <u>N/A</u> inches</p> <p>Depth to Saturated Soil: <u>N/A</u> inches</p>	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	No	Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes No
Hydric Soils Present?	<input checked="" type="radio"/> Yes	No	
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	No	
Rationale: <div style="font-size: 1.2em; margin-top: 10px;">ALL CRITERIA ARE SATISFIED.</div>			

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Benevolence</u>
Investigator: <u>SOLKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the site significantly disturbed (Atypical Situation)?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-26</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Phlox pratensis</i> *	FAC-	40	4	38	1
<i>Chrysanthemum leucanthemum</i> *	UPL	35	4	38	1
<i>Poa</i> sp.		T			
<i>Alopecurus pratensis</i> *	FACW	20	3	20.5	2
Bare ground		5		96.5	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-: 33%					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pokay-Typic Fluvaquent 0-4% Drainage Class: SW Poor / Poor
 Taxonomic Classification: Coarse-loamy over sandy skeletal mixed Typic A On Hydric Soils List? Yes No

Soil Profile Description Enaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12	A	10YR 2/1	—	—	Silt loam
12-15	A	10YR 3/1	—	—	Silt loam
15-21	B	10YR 3/1	7 1/2 YR 4/5	Few	Silt loam
21-24+		10YR 3/1	—	—	Silt loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: HYDRIC BASED ON REDOXIMORPHIC FEATURES IN 15-21 INCH STRATA.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u> Hydric Soils Present? <u>Yes</u> <u>No</u> Wetland Hydrology Present? <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? <u>Yes</u> <u>No</u>
Rationale: <u>TWO CRITERIA ARE LACKING.</u>	

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MADIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET CO</u> Investigator: <u>SEKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Renewah</u> State: <u>ND</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>M-27</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alpinaus pratensis</i> *	FACW	80	6	85.5	1
<i>Poa</i> spp		T			
<i>Phleum pratense</i>		10	2	10.5	
<i>Chrysanthemum leucanthemum</i>		5	1	3	
<i>Taraxacum</i> sp		T			
<i>Bare ground</i>		5			
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Polk - Typic Fluvaquent 0-4% Drainage Class: SW for 1 foot
 Taxonomic Classification: Coarse-grained, very sandy, skeletal mixed Typic A On Hydric Soils List? Yes No

Soil Profile Description Cryosol

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7		10YR 2/1	—	—	Silt loam
7-10		10YR 2/1	7.5YR 4/5	RARE	Silt loam
10-13		10YR 4/1	7.5YR 4/5	Common	Fine Sandy clay loam
13-18+		10YR 5/3	7.5YR 4/4	Common	Fine Sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-10</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> No	Is this Data Plot within a wetland? <u>Yes</u> No
Hydric Soils Present? <u>Yes</u> No	
Wetland Hydrology Present? <u>Yes</u> No	
Rationale: <u>All CRITERIA ARE SATISFIED.</u>	

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Bonewah</u>
Investigator: <u>SELKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? Yes <input checked="" type="radio"/> No <input type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>M-28</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Aspidistra repens</i>	* FAC-	70	5	63	1
<i>Poa spp</i>		10	2	10.5	
<i>Dactylis glomerata</i>		T			
<i>Chrysanthemum leucanthemum</i>		15	2	10.5	
<i>Phleum pratense</i>		T			
<i>Potentilla gracilis</i>		T		8.4	
Bare ground		5	.		
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:-					0%
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Atay-Typic Fluvaquents 0-4% Drainage Class: SWP or 9 A or
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic On Hydric Soils List? Yes No
Soil Profile Description CRY aq soil

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9		10YR 2/1	—	—	Silt loam
9-16+		10YR 3/2	—	—	gravelly silt loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

☒ Inundated
☐ Saturated in upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <u>No</u>	Is this Data Plot within a wetland?	Yes <u>No</u>
Hydric Soils Present?	Yes <u>No</u>		
Wetland Hydrology Present?	Yes <u>No</u>		

Rationale:

ALL CRITERIA ARE LACKING.

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: M-29

VEGETATION

Remarks:

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): tokey - Typic Fluvaquents 0-490 Drainage Class: SWA 9-1000
 Taxonomic Classification: Coarse loam over sandy skeletal mixed Typic Fluvaquoll On Hydric Soils List? Yes No

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 2/1	—	—	Silt loam
5-8		10YR 2/1	7 1/2 YR 4/5	Common	Silt loam
8-13		10YR 3/1	7 1/2 YR 4/5	Common	Fine Sandy Clay loam
13-18+		10YR 4/1	7 1/2 YR 4/4	Few	Clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-18"</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> No	Is this Data Plot within a wetland? <u>Yes</u> No
Hydric Soils Present? <u>Yes</u> No	
Wetland Hydrology Present? <u>Yes</u> No	
<p>Rationale:</p> <p><u>All Criteria Are Satisfied.</u></p>	

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET CO</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Bonanza</u> State: <u>TX</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>M-30</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca rubra</i>	* FAC +	85	6	85.5	1
<i>Juncus tenuis</i>		1			
<i>Agrostis stolonifera</i>		15	2	10.5	
				96	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-:					<u>100%</u>
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Boley - Histic Fluvaquents 0-10</u>				Drainage Class: <u>Super Poor</u>	
Taxonomic Classification: <u>Coarsely over sandy skeletal mixed Histic Gypsol</u>				On Hydric Soils List? Yes No	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 2/1	—	—	Silt Loam
10-17		10YR 3/2	—	—	gravelly Silt Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> inches</p> <p>Depth to Free Water in Pit: <u>n/o</u> inches</p> <p>Depth to Saturated Soil: <u>n/o</u> inches</p>	<p>Secondary Indicators (2 or more required):</p> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No	Is this Data Plot within a wetland? Yes No
Hydric Soils Present? Yes No	
Wetland Hydrology Present? Yes No	
Rationale: <p style="font-size: 1.2em;">TWO CRITERIA ARE LACKING.</p>	

Project/Site: <u>ST MARYS RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>Emerald Creek Grout Co</u>	County: <u>Bernese</u>
Investigator: <u>SELKIE ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>M-31</u>

[illegible]

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Pekey - Typic Fluvaquents 0-4 9c</u>				Drainage Class: <u>SW for 9 for</u>	
Taxonomic Classification: <u>Coarse loamy over sandy skeletal mixed Typic A</u>				On Hydric Soils List? Yes No	
Soil Profile Description <u>Cryaquoll</u>					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-13		10YR 2/2	7 1/2 YR 4/5	Common	Sandy loam
13-18+		10YR 3/1	7 1/2 YR 4/6	Common	Sandy clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-18</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	<p>Secondary Indicators (2 or more required):</p> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes	No	Is this Data Plot within a wetland? Yes No
Hydric Soils Present?	Yes	No	
Wetland Hydrology Present?	Yes	No	
Rationale: <div style="text-align: center; font-size: 1.2em; margin-top: 10px;">All Criteria Are Satisfied.</div>			

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARRS RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARJET CO</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9</u> 1998 County: <u>Bonewah</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>M-32</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca rubra</i>	* FAC+	20	3	20.5	1
<i>Dactylis glomerata</i>	* FACU	15	2	10.5	2
<i>Chrysanthemum leucanthemum</i>		1			
<i>Alopecurus pratensis</i>		1			
<i>Agrostis stolonifera</i>		5	1	3	
<i>Agropyron repens</i>	* FAC-	10	2	10.5	2
<i>Polygonum</i>		35			
<i>Moss</i>		15			
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-:					<u>33%</u>
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>tokey - Typic Fluvaquents 041a</u>				Drainage Class: <u>Superficial</u>	
Taxonomic Classification: <u>Coarse loamy over sandy skeletal mixed Typic A</u>				On Hydric Soils List? <u>Yes</u> <u>No</u>	
Soil Profile Description <u>Cryosol</u>					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 2/1	—	—	Silt loam
10-18+		10YR 3/2	—	—	gravelly sandy loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks:					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> inches Depth to Free Water in Pit: <u>n/o</u> inches Depth to Saturated Soil: <u>n/o</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <u>No</u>	Is this Data Plot within a wetland? Yes <u>No</u>
Hydric Soils Present?	Yes <u>No</u>	
Wetland Hydrology Present?	Yes <u>No</u>	
Rationale: <u>All Criteria Are Lacking</u>		

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARRIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET CO</u> Investigator: <u>SCIENCE ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Bernatch</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>M-33</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Phleum pratense</i>	* FAC -	35	4	38	1
<i>Agrostis stolonifera</i>		20	3	20.5	
<i>Festuca rubra</i>	* FAC +	30	4	38	1
<i>Chrysanthemum leucanthemum</i>		10	2	10.5	
<i>Ranunculus repens</i>		T			
<i>Abies pratinensis</i>	* FACW	35	4	38	1
<i>Tinctoria sp</i>		T			
				145	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-:					67%
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Hokey - Typic Fluvaquents 0-4 To Drainage Class: SW for 9 feet
 Taxonomic Classification: Coarse sandy over sandy skeletal mixed Typic A On Hydric Soils List? Yes No

Soil Profile Description cray soil

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 2/2	—	—	Silt Loam
2-8		10YR 3/2	—	—	Fine Sandy Loam
8-15		10YR 4/2	—	—	Sandy Loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks:

HYDROLOGY

- Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tidal Gage
- ☐ Aerial Photographs
- ☒ Other (Explain in Remarks)
- ☒ No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
- ☐ Saturated in upper 12 inches
- ☐ Water Marks
- ☒ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Field Observations:

Depth of Surface Water: 0 inches

Depth to Free Water in Pit: n/a inches

Depth to Saturated Soil: n/a inches

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? Yes <u>No</u>
Hydric Soils Present? <u>Yes</u> <u>No</u>	
Wetland Hydrology Present? <u>Yes</u> <u>No</u>	

Rationale:

TWO CRITERIA ARE LACKING

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET CO</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Benedict</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>M-24</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca rubra</i> *	FAC+	90	6	85.5	1
<i>Phleum pratense</i>		1		85.5	
<i>Hieracium</i> sp.		1			
<i>Bellis perennis</i>		1			
<i>Achillea millefolium</i>		1			
<i>Bar ground</i>		10			
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Atkey - Typic Fluvaquent 0-472 Drainage Class: SW for 1 year
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic A On Hydric Soils List? Yes No

Soil Profile Description Cryaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/2	—	—	Fine Sandy loam
8-20+		10YR 3/2	—	—	Fine Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> <u>No</u>	Is this Data Plot within a wetland?	<u>Yes</u> <u>No</u>
Hydric Soils Present?	<u>Yes</u> <u>No</u>		
Wetland Hydrology Present?	<u>Yes</u> <u>No</u>		
<p>Rationale:</p> <p style="text-align: center;">TWO CRITERIA ARE LACKING.</p>			

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Bernouah</u>
Investigator: <u>SOLKIRK ENVIRONMENTAL</u>	State: _____
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>11-35</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca rubra</i>	* FAC +	85	6	85.5	1
<i>Chrysanthemum leucanthemum</i>		15	2	10.5	
				<hr/> 96	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:- 100%					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Takey - Typic Fluvisols 0-4%</u>		Drainage Class: <u>SW for 9 feet</u>			
Taxonomic Classification: <u>Coarse loamy over sandy skeletal mixed Typic A</u>		On Hydric Soils List? <u>Yes</u> <u>No</u>			
Soil Profile Description <u>Gyaqwall</u>					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 2/2	—	—	Fine Sandy Loam
6-13		10YR 3/3	—	—	Fine Sandy Loam
13-16+		10YR 3/3	7 1/2 YR 4/5	Few	Fine Sandy Loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks: <u>Chroma of 3 with mottles is NOT hydric</u>					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u> Hydric Soils Present? <u>Yes</u> <u>No</u> Wetland Hydrology Present? <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? <u>Yes</u> <u>No</u>
Rationale: <u>TWO CRITERIA ARE LACKING..</u>	

Project/Site: <u>ST MARYS RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARRET CO</u>	County: <u>Bonanza</u>
Investigator: <u>SEARC ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? Yes <input checked="" type="radio"/> No <input type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input checked="" type="radio"/> No <input type="radio"/>	Plot ID: <u>M-36</u>

Species		Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:						
<i>Abies procumbens</i>	X	FACW	50	4	38	1
<i>Carex vesicaria</i>			10	2	10.5	
<i>Festuca rubra</i>	*	FAC+	35	4	38	1
moss			5		86.5	
Shrubs:						
Saplings:						
Trees:						
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:- 100%						
Remarks:						

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pekey - Typic Fluvaquents 0-4¹⁰ Drainage Class: SW Poor 9 feet
 Taxonomic Classification: Coarse loamy over Sandy skeletal mixed Typic A On Hydric Soils List? Yes No

Soil Profile Description Cryaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 2/2	7 1/2 YR 4/5	Few	Sandy loam
6-11		10YR 3/3	7 1/2 YR 4/5	Few	Sandy loam
11-18 ⁺		10YR 4/3	7 1/2 YR 4/5	Few	Loamy Sand

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: PROFILE LACKS REDDISH MORPHIC FEATURES WITH LOW CHROMA, BUT OBSERVED INUNDATION = HYDRIC (NTCHS CRITERIA 3)

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☐ Other (Explain in Remarks)
☒ No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:

- ☒ Inundated
☒ Saturated in upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Field Observations:

Depth of Surface Water: 0-3 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No	Is this Data Plot within a wetland?	<u>Yes</u> No
Hydric Soils Present?	<u>Yes</u> No		
Wetland Hydrology Present?	<u>Yes</u> No		

Rationale:

ALL CRITERIA ARE SATISFIED. ON WETLAND EDGE. A MARGINAL WETLAND.

WETLAND DETERMINATION

Project/Site: <u>ST. MARGES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARRET CO</u>	County: <u>Bernese</u>
Investigator: <u>SELKIRK ENVIRONMENTAL</u>	State: <u>ND</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>M-37</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alopecurus pratensis</i> *	FACW	100	7	98 /	1
<i>Pectera rubra</i>		T		/ 98	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:- 100%					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Takey - Typic Fluvaquent 0-4 S Drainage Class: SWPac 9 feet
 Taxonomic Classification: Coarse loamy over Sandy skeletal mixed Typic A On Hydric Soils List? Yes No

Soil Profile Description Cryaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 2/2	7 1/2 YR 4/4	Few	Fine Sandy loam
5-9		10YR 2/1	7 1/2 YR 4/5	Few	Fine Sandy loam
9-13		10YR 3/2	7 1/2 YR 4/5	Common	Fine Sandy loam
13-17+		10YR 4/3	7 1/2 YR 4/5	Common	Fine Sandy loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-6</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No	Is this Data Plot within a wetland?	<u>Yes</u> No
Hydric Soils Present?	<u>Yes</u> No		
Wetland Hydrology Present?	<u>Yes</u> No		

Rationale:

ALL CRITERIA ARE SATISFIED.

WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>Bonewah</u>
Investigator: <u>SEKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the site significantly disturbed (Atypical Situation)?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transsect ID: _____
	Plot ID: <u>m-38</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alpecurus pratensis</i>	* FACW	80	6	85.5	1
<i>Festuca rubra</i>		20	3	20.5	
				<hr/> 106	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Peay-Typk Fluvaquents 0-45 Drainage Class: SW for 9 for
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typk A On Hydric Soils List? (Yes) (No)

Soil Profile Description Cryaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7		10YR 2/2	7.5YR 4/5	Few	Sandy loam
7-12		10YR 2/1	7.5YR 4/5	Few	Fine Sandy loam
12-17		10YR 3/2	7.5YR 4/5	Few	Fine Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-5</u> inches</p> <p>Depth to Free Water in Pit: <u>n/o</u> inches</p> <p>Depth to Saturated Soil: <u>n/o</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>(Yes)</u> No	Is this Data Plot within a wetland?	<u>(Yes)</u> No
Hydric Soils Present?	<u>(Yes)</u> No		
Wetland Hydrology Present?	<u>(Yes)</u> No		
<p>Rationale:</p> <p style="text-align: center;">All Criteria Are Satisfied.</p>			

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET CO</u>	County: <u>Bonevick</u>
Investigator: <u>SENIOR ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Is the area a potential Problem Area?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Community ID: _____
	Transsect ID: _____
	Plot ID: <u>M-39</u>

[illegible]

Remarks:

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>POkey - Typic Fluvaquents 0-490</u>				Drainage Class: <u>SW floor 9 feet</u>	
Taxonomic Classification: <u>Coarse loamy over sandy skeletal mixed Typic</u>				On Hydric Soils List? <u>Yes</u> <u>No</u>	
Soil Profile Description <u>Erysoquell</u>					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7		10YR 2/2	7.5YR 4/5	Few	Fine Sandy loam
7-12		10YR 3/1	7.5YR 4/5	Common	Fine Sandy loam
12-18+		10YR 3/2	7.5YR 4/5	Common	Fine Sandy loam
Hydric Soil Indicators:					
<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors </div> <div> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
Remarks:					

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-7</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
Remarks:	

WETLAND DETERMINATION

<p>Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u></p> <p>Hydric Soils Present? <u>Yes</u> <u>No</u></p> <p>Wetland Hydrology Present? <u>Yes</u> <u>No</u></p>	<p>Is this Data Plot within a wetland? <u>Yes</u> <u>No</u></p>
<p>Rationale:</p> <p style="font-size: 1.2em;">All Criteria are Satisfied.</p>	

WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u>	County: <u>BENNEWAH</u>
Investigator: <u>SEKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the site significantly disturbed (Atypical Situation)?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transsect ID: _____
	Plot ID: <u>M-40</u>

VEGETATION

[illegible]

Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-: 100%

Remarks:

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Poker - Typic Fluvaquents 0-4 to Drainage Class: SW for 9 feet
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic A On Hydric Soils List? (Yes) (No)

Soil Profile Description Cryaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/2	—	—	Silt loam
8-14		10YR 3/2	—	—	Fine Sandy loam
14-18+		10YR 3/3	7 1/2 YR 4/5	Few	Fine Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☐ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☐ Water Marks
☒ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>(Yes) (No)</u>	Is this Data Plot within a wetland? Yes <u>(No)</u>
Hydric Soils Present? <u>(Yes) (No)</u>	
Wetland Hydrology Present? <u>(Yes) (No)</u>	

Rationale:

TWO CRITERIA ARE LACKING.

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: M-41

VEGETATION

Remarks:

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pekey - Typic Fluvaquents 0-4 S Drainage Class: SW for 9 foot
 Taxonomic Classification: Coarse loamy over Sandy Skeletal Mixed Typic A On Hydric Soils List? (Yes) (No)

Soil Profile Description Crvaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-12		10YR 2/2	7.5YR 4/5	Common	F. Sandy Loam
12-18		10YR 3/3	7.5YR 4/5	Common	Fine Sandy Loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: HYDRIC CONDITION IS SATISFIED BY OBSERVATION OF LONG-TERM PONDING (NCHS CRITERIA 8).

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-12</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>(Yes)</u> No	Is this Data Plot within a wetland?	<u>(Yes)</u> No
Hydric Soils Present?	<u>(Yes)</u> No		
Wetland Hydrology Present?	<u>(Yes)</u> No		
<p>Rationale:</p> <p><u>ALL CRITERIA ARE SATISFIED.</u></p>			

Project/Site: ST. MARIES RIVER
Applicant/Owner: EMERALD CREEK GARNET CO
Investigator: SELKIRK ENVIRONMENTAL

Do Normal Circumstances exist on the site? ☒ Yes ☐ No

Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No

Is the area a potential Problem Area? ☐ Yes ☒ No

Community ID: _____
 Transect ID: _____
 Plot ID: M-42

[illegible]

Remarks:

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): tokey - Typic Fluvaquents 0-4b Drainage Class: Subor 9 floor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic Cryaquoll On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 2/2	—	—	Fine Sandy Loam
10-16		10YR 3/2	—	—	Fine Sandy Loam
16-18+		10YR 3/3	7.5YR 4/5	Few	Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☐ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> <u>No</u>	Is this Data Plot within a wetland?	<u>Yes</u> <u>No</u>
Hydric Soils Present?	<u>Yes</u> <u>No</u>		
Wetland Hydrology Present?	<u>Yes</u> <u>No</u>		

Rationale:

TWO CRITERIA ARE LACKING.

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u>	County: <u>Bonewah</u>
Investigator: <u>SEKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Is the area a potential Problem Area?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>m-43</u>

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Agrostis stolonifera</i>	* FAC	35	4	38	2
<i>Allopecurus pratensis</i>	* FACW	55	5	63	1
<i>Chrysanthemum leucanthemum</i>		T			
<i>Pontego lanceolata</i>		T			
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: 100%					
Remarks:					

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Peck - Typic Fluvaquents Drainage Class: SWater - Poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic Cryaquoll On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-13		10YR 2/1	—	—	Silt loam
13-21+		10YR 3/2	7.5YR 4/6	Few	Sandy loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: REDUCING CONDITIONS ARE TO FAR BELOW THE ROOT ZONE TO BE HYDRIC.

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> inches</p> <p>Depth to Free Water in Pit: <u>n/o</u> inches</p> <p>Depth to Saturated Soil: <u>n/o</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> <u>No</u>	Is this Data Plot within a wetland?	<u>Yes</u> <u>No</u>
Hydric Soils Present?	<u>Yes</u> <u>No</u>		
Wetland Hydrology Present?	<u>Yes</u> <u>No</u>		
<p>Rationale:</p> <p><u>TWO CRITERIA ARE LACKING.</u></p>			

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MABLES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u>	County: <u>Bonewah</u>
Investigator: <u>SONDIA ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>M-44</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Abies procumbens</i>	* FACW	75	6	85.5	1
<i>Agrostis stolonifera</i>		15	2	10.5	
<i>Phalaris arundinacea</i>		10	2	10.5	
<i>Ranunculus repens</i>		<u>1</u>		<u>106.5</u>	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: 100%					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Key-Typic Fluvaquents 0-48 Drainage Class: SW Poor - Poor
 Taxonomic Classification: Coarsebony over Sandy Skeletal mixed Typic On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-10		10YR 2/1	—	—	Loam
10-15		10YR 3/2	7.5YR 4/5	Common	Loamy sand

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☐ No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:

- ☒ Inundated
☒ Saturated in upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Field Observations:

Depth of Surface Water: 0-6 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No

Hydric Soils Present?

Yes No

Wetland Hydrology Present?

Yes No

Is this Data Plot within a wetland?

Yes No

Rationale:

ALL CRITERIA ARE SATISFIED.

WETLAND DETERMINATION

Community ID: _____
Transect ID: _____
Plot ID: M-45

VEGETATION

Remarks:

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Poke Typic Fluvaquents 0-490 Drainage Class: SW Poor - Poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11		10YR 2/1	—	—	Fine Sandy loam
11-21		10YR 3/2	—	—	Loamy Sand
21-30+		10YR 4/2	7.5YR 4/5	Common	Fine Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: Plot AT VERTICAL CUT IN RIVER TOP-OF-BANK.
NON-HYDRIC - REDUCING CONDITIONS TOO DEEP.

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☐ Water Marks
☒ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

Yes No

Hydric Soils Present?

Yes No

Wetland Hydrology Present?

Yes No

Is this Data Plot within a wetland?

Yes No

Rationale:

TWO CRITERIA ARE LACKING.

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u>	County: <u>Bonewah</u>
Investigator: <u>SEKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>M-46</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Polemon pratense</i>	* FAC -	55	5	63	1
<i>Alopecurus pratensis</i>	* FACW	40	4	38	2
<i>Cirsium arvense</i>		7			
<i>Chrysanthemum leucanthemum</i>		15	2	10.5	
				111.5	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:- 50%					
Remarks: Marginally Positive Vegetation.					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Alley - Typic Fluvaquents 0-4% Drainage Class: SWPDR - Poor
 Taxonomic Classification: Coarse bony over Sandy skeletal mixed Typic On Hydric Soils List? (Yes) (No)

Soil Profile Description Grygwell

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/2	—	—	Loam
3-10		10YR 3/3	—	—	Fine Sandy Loam
10-16+		10YR 4/4	7 1/2 YR 4/6	Few	Sandy Loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/o inches
 Depth to Saturated Soil: n/o inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☒ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Marginal</u> <u>(Yes)</u> <u>(No)</u>	Is this Data Plot within a wetland? Yes <u>(No)</u>
Hydric Soils Present? Yes <u>(No)</u>	
Wetland Hydrology Present? Yes <u>(No)</u>	

Rationale:

TWO CRITERIA ARE LACKING.

WETLAND DETERMINATION

Community ID: _____
Transect ID: _____
Plot ID: m-47

VEGETATION

Remarks: Marginally Positive Vegetation

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Poke Typic Fluvaquents 0-4.5 Drainage Class: SWPoke - Poor
 Taxonomic Classification: Coarse loamy over sandy, silty mixed Typic On Hydric Soils List? Yes No

Soil Profile Description ^{Crva soil}

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 3/2	—	—	Loam
5-15		10YR 4/2	—	—	Fine Sandy Loam
15-25		10YR 3/2	7.5YR 4/4	FEW	Fine Sandy Loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks: REDOXIMORPHIC FEATURES ARE TOO FAR BELOW THE ROOT ZONE TO BE HYDRIC.

HYDROLOGY

- Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tidal Gage
 - ☐ Aerial Photographs
 - ☐ Other (Explain in Remarks)
 - ☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
- ☐ Saturated in upper 12 inches
- ☐ Water Marks
- ☒ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Maginal</u> <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? Yes <u>No</u>
Hydric Soils Present? <u>Yes</u> <u>No</u>	
Wetland Hydrology Present? <u>Yes</u> <u>No</u>	

Rationale:

TWO CRITERIA ARE LACKING

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u>	County: <u>Benewah</u>
Investigator: <u>SELKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Is the site significantly disturbed (Atypical Situation)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Is the area a potential Problem Area?	<input type="radio"/> Yes <input checked="" type="radio"/> No
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-48</u>

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Phleum pratense</i>	* FACU	45	4	38	1
<i>Abacourus pratensis</i>	* FACW	40	4	38	1
<i>Agrostis stolonifera</i>		15	2	10.5	
				<u>86.5</u>	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: 50%					
Remarks: Marginally Positive Vegetation					

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Torey - Typic Fluvaquents 0-45a Drainage Class: SW ACP - 1400
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic Cryosol On Hydric Soils List? (Yes) (No)

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 2/2	—	—	Loam
3-11		10YR 3/3	—	—	Fine Sandy loam
11-17		10YR 4/3	7.5YR 4/6	Few	Fine Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
---	--

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 inches</p> <p><input checked="" type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> inches</p> <p>Depth to Free Water in Pit: <u>n/o</u> inches</p> <p>Depth to Saturated Soil: <u>n/o</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

<p>Hydrophytic Vegetation Present? <u>Marshall</u> <u>(Yes)</u> <u>(No)</u></p> <p>Hydric Soils Present? <u>(Yes)</u> <u>(No)</u></p> <p>Wetland Hydrology Present? <u>(Yes)</u> <u>(No)</u></p>	<p>Is this Data Plot within a wetland? <u>(Yes)</u> <u>(No)</u></p>
<p>Rationale:</p> <p style="font-size: 1.2em;">TWO CRITERIA ARE LACKING.</p>	

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARYS RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARDENS LTD</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Bonewah</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>M-49</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Agrostis stolonifera</i> *	FAC	20	3	20.5	1
<i>Phalaris arundinacea</i>		5	1	3	
<i>Poa pratensis</i> *	FAC	10	2	10.5	2
				34	
<i>Bare Ground</i>		65			
Shrubs:					
<i>Crataegus douglasii</i> *	FAC	45	4	38	1
				38	
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Tokey - Typic Fluvaquents 0-4b Drainage Class: SW Poor - poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Eptc A On Hydric Soils List? (Yes) (No)

Soil Profile Description CRV 0-1011

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 3/2	—	—	Loam
5-17		10YR 3/3	—	—	Sandy loam
17-18		10YR 8/1	—	—	Mazama Ash (Silt)
18+		10YR 4/2	7.5YR 4/6	Common	Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: REDOXIMORPHIC FEATURES ARE TOO DEEP TO BE HYDRIC

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☐ Other (Explain in Remarks)
☒ No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☒ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Field Observations:

Depth of Surface Water: 0 inches

Depth to Free Water in Pit: n/a inches

Depth to Saturated Soil: n/a inches

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>none</u>	<u>(Yes)</u> No	Is this Data Plot within a wetland? Yes <u>(No)</u>
Hydric Soils Present?	Yes <u>(No)</u>	
Wetland Hydrology Present?	Yes <u>(No)</u>	

Rationale:

TWO CRITERIA ARE LACKING.

Project/Site: <u>ST MARYS RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET CO</u>	County: <u>Renewal</u>
Investigator: <u>SOLARK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Is the site significantly disturbed (Atypical Situation)? <u>HAY LAND</u>	Yes <input checked="" type="radio"/> No <input type="radio"/>
Is the area a potential Problem Area?	Yes <input type="radio"/> No <input checked="" type="radio"/>
	Community ID: _____
	Transect ID: _____
	Plot ID: <u>M-50</u>

[illegible]

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>CLARKIA SILT LOAM 0-2%</u>				Drainage Class: <u>POOR</u>	
Taxonomic Classification: <u>Fine-Silty mixed fixed Acidic Endosol</u>				On Hydric Soils List? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 1/1	—	—	Silt loam
8-17+		10YR 4/1	7.5YR 4/5	Occ	Silt loam - Silty clay loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-4</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Rationale: <p style="text-align: center; font-size: 1.2em;">All Criteria Are Satisfied</p>	

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST. MARIES RIVER</u>	Date: <u>6-7-9 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET CO</u>	County: <u>Benedict</u>
Investigator: <u>SEKIRY ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <u>HAY LAND</u> Yes <input checked="" type="radio"/> No <input type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>M-51</u>

VEGETATION

[illegible]

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Clarkia Silt Loam 0-2%</u>		Drainage Class: <u>POOR</u>			
Taxonomic Classification: <u>Fine-silty mixed friable Aquic Endosol</u>		On Hydric Soils List? Yes <input type="radio"/> No <input checked="" type="radio"/>			
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color		
0-13		10YR 2/1	7.5YR 4/5		
13-18		10YR 4/2	—		
Texture, Concretions, Structure, etc. <u>Silt Loam</u> <u>Fine Sandy Loam</u>					
Hydric Soil Indicators: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>				<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)				
Remarks:					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Data Plot within a wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Rationale: <div style="font-size: 1.2em; font-family: cursive;">TWO CRITERIA ARE LACKING</div>	

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: T-23

VEGETATION

Remarks:

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): CLARKIA SILT LOAM 0-2 1/2 Drainage Class: POOR
 Taxonomic Classification: Fine silty mixed Eroid Aquentic Endoaqualf On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 3/2	—	—	Silt Loam
4-6					S+Helons Ash
6-15		10YR 2/1	7 1/2 YR 4/4	Occasional	Silt Loam
15-18+		10YR 5/1	7 1/2 YR 5/1 1/4/4	Many	Sandy Loam

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input checked="" type="checkbox"/> Aquic Moisture Regime
<input checked="" type="checkbox"/> Reducing Conditions
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|--|--|

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-10</u> inches</p> <p>Depth to Free Water in Pit: <u>n/o</u> inches</p> <p>Depth to Saturated Soil: <u>n/o</u> inches</p>	

Remarks:

WETLAND DETERMINATION

<p>Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>
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Rationale:

All CRITERIA ARE SATISFIED.

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST. MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u> Investigator: <u>SELUICK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Benewah</u> State: <u>IN</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/> Is the site significantly disturbed (Atypical Situation)? <u>WAY LAKE</u> Yes <input checked="" type="radio"/> No <input type="radio"/> Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Community ID: _____ Transect ID: _____ Plot ID: <u>T-24</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank	
Herbs:						
<i>Alpercatos pratensis</i>	*	FACW	40	4	38	1
<i>Carex vesicaria</i>	*	OBL	35	4	38	1
<i>Carex microptera</i>			15	2	10.5	
<i>Agrostis stolonifera</i>	*	FACW	35	4	38	1
<i>Eleocharis palustris</i>			15	2	10.5	
					<u>12.5</u>	
Shrubs:						
Saplings:						
Trees:						
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-:					<u>100%</u>	
Remarks:						

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clarkia Silt Loam 0-22 Drainage Class: Poor
 Taxonomic Classification: Fine silty mixed frigid Asandic Endogsoil On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 3/2	—	—	Silt Loam
6-7					st. Helens Ash
7-15		10YR 2/1	7.5YR 3/6	Occasional	Silt Loam
15-17		10YR 2/1	—	—	Silt Loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input checked="" type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-8</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No	Is this Data Plot within a wetland?	<u>Yes</u> No
Hydric Soils Present?	<u>Yes</u> No		
Wetland Hydrology Present?	<u>Yes</u> No		
<p>Rationale:</p> <p><u>All Criteria Satisfied.</u></p>			

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST. MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET CO</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Benevolence</u> State: <u>ND</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Is the site significantly disturbed (Atypical Situation)? <u>HAY LAND</u> Yes <input checked="" type="radio"/> No <input type="radio"/>	
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Community ID: _____ Transect ID: _____ Plot ID: <u>T-25</u>	

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alopecurus pratensis</i>	* FACW	55	5	63	* 1
<i>Carex microstachya</i>		20	3	20.5	
<i>Potentilla gracilis</i>		15	2	10.5	
<i>Agrostis stolonifera</i>		20	3	20.5	
				124.5	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:-					100%
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): CLARKIA SILT LOAM Drainage Class: POOR
 Taxonomic Classification: Fine-silty mixed Siliceo Aquardic Endoaqualf On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 3/2	-	-	Sandy Loam
6-7					St Helens Ash
7-16		10YR 3/2	7.5YR 4/4	Occasional	Silo → Fine Sandy Lo
16-19+		10YR 5/3	-	-	Sandy Loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input checked="" type="checkbox"/> Aquic Moisture Regime
<input checked="" type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks: HYDRIC BASED ON REDOXIMORPHIC FEATURES & PONDING (ATCHS CRITERIA 3)

HYDROLOGY

- Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tidal Gage
- ☐ Aerial Photographs
- ☐ Other (Explain in Remarks)
- ☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-4 inches

Depth to Free Water in Pit: N/A inches

Depth to Saturated Soil: N/A inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☒ Inundated
- ☒ Saturated in upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No
Hydric Soils Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Wetland Hydrology Present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	

Rationale:

ALL CRITERIA SATISFIED

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: T-26

VEGETATION

Remarks:	
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Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered *dominants*, and *marked with an asterisk*.

SOILS

Map Unit Name (Series and Phase): CLARKIA SILT LOAM 0-2⁹10 Drainage Class: POOR
 Taxonomic Classification: Fine silty mixed Frigid Aquentic Endoaqualf On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 3/2	—	—	Silt loam
4-8		10YR 3/2 5/3	—	—	Silt loam → Fine Sandy
8-17 ⁺		10YR 5/3	—	—	Fine Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☒ Aerial Photographs
☐ Other (Explain in Remarks)
☒ No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☒ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	Is this Data Plot within a wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soils Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	

Rationale:

TWO CRITERIA ARE LACKING

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: T-27

VEGETATION

Remarks:

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clarkia Silt Loam 0-2% Drainage Class: Poor
 Taxonomic Classification: Fine silty mixed fine Aquandic Endosol On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 3/2	—	—	Silt Loam
6-7		10YR 3/2	7.5YR 4/5	RARE	Silt Loam
7-17+		10YR 5/3	—	—	Sandy Loam

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input checked="" type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks: NEGATIVE FOR HYDRIC SOILS - INSIGNIFICANT AMOUNT OF MOTTLING

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches
 Depth to Free Water in Pit: n/a inches
 Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☐ Water Marks
☐ Drift Lines
☒ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? Yes <u>No</u>
Hydric Soils Present? Yes <u>No</u>	
Wetland Hydrology Present? Yes <u>No</u>	

Rationale:

TWO CRITERIA LACKING

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARYS RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARRET CO</u> Investigator: <u>SCUKIRY ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Benewah</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/> Is the site significantly disturbed (Atypical Situation)? <u>HAYLAND</u> Yes <input checked="" type="radio"/> No <input type="radio"/> Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Community ID: _____ Transect ID: _____ Plot ID: <u>T-28</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Eleocharis palustris</i>	* OBL	45	4	38	1
<i>Agrostis alabamica</i>	* FACW	35	4	38	1
<i>Allopecurus pratensis</i>	* FACW	35	4	38	1
<i>Juncus</i> sp.		20	3	20.5	
<i>Carex microstachya</i>		15	2	10.5	
<i>Phalaris arundinacea</i>		10	2	10.5	
				155.5	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clarkia Silt Loam 0-2% Drainage Class: Poor
 Taxonomic Classification: Fine silty mixed friable Aquic Entic Argosol On Hydric Soils List? Yes No

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 2/1	—	—	Silt loam
4-6		10YR 2/1	7 1/2 YR 4/4	Occasional	Silt loam
6-10		10YR 2/1 1/2	7 1/2 YR 4/4	Occasional	Silt loam → Fine Sandy loam
10-17+		10YR 4/2	7 1/2 YR 4/4	Many	Fine Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-10</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	<p>Secondary Indicators (2 or more required):</p> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> No	Is this Data Plot within a wetland? <u>Yes</u> No
Hydric Soils Present? <u>Yes</u> No	
Wetland Hydrology Present? <u>Yes</u> No	
Rationale: <p><u>ALL CRITERIA SATISFIED.</u></p>	

Project/Site: <u>ST. MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET CO</u>	County: <u>Bernie</u>
Investigator: <u>SELKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/>	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <u>Hay Land</u> Yes <input checked="" type="radio"/> No <input type="radio"/>	Transect ID: _____
Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Plot ID: <u>T-29</u>

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alopecurus pratensis</i> *	PACW	100	7	98	1
				98	
Shrubs:					
Saplings:					
Trees:					

Remarks:

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Clarkia Silt Loam 0-2" a</u>				Drainage Class: <u>Pool</u>	
Taxonomic Classification: <u>Fine Silty mixed Gridd Aquatic Endoaquoll</u>				On Hydric Soils List? <u>Yes</u> No	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 2/1	7.5YR 4/6	Few	Silt Loam
6-16		10YR 3/2	7.5YR 4/6	Rare	Fine Sandy loam
16-18+		10YR 3/1	7.5YR 4/6	Rare	Fine Sandy loam
Hydric Soil Indicators:					
<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors		<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)			
Remarks:					

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-7</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u>	No	
Hydric Soils Present?	<u>Yes</u>	No	
Wetland Hydrology Present?	<u>Yes</u>	No	
Is this Data Plot within a wetland? <u>Yes</u> No			
Rationale: <u>All Criteria Satisfied</u>			

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST. MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARDEN CO</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u> Do Normal Circumstances exist on the site? Yes <input type="radio"/> No <input checked="" type="radio"/> Is the site significantly disturbed (Atypical Situation)? <u>NO LAND</u> Yes <input type="radio"/> No <input checked="" type="radio"/> Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/>	Date: <u>6-7-9 1998</u> County: <u>Bernese</u> State: <u>ID</u> Community ID: _____ Transect ID: _____ Plot ID: <u>T-30</u>
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VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alnus incana</i>	* FACW	100	7	98.5	1
				98	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clarkia Silt Loam 0-2% Drainage Class: poor
 Taxonomic Classification: Entisols, silty mixed, frigid, Aquatic, Entic, Typic On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/1	7 1/2 YR 4/5	Rare	Silt loam
8-17		10YR 3/1	—	—	Silt loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input checked="" type="checkbox"/> Aquic Moisture Regime
<input checked="" type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> No Recorded Data Available </p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p style="margin-left: 20px;"> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands </p> <p>Secondary Indicators (2 or more required):</p> <p style="margin-left: 20px;"> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks) </p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-4</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

<p>Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Is this Data Plot within a wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No</p>
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Rationale:

All Criteria Satisfied - An "EDGE-W" Plot.

DATA FORM
WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9 - 1998</u>
Applicant/Owner: <u>EMERALD CREEK GARRET LTD</u>	County: <u>Bernard</u>
Investigator: <u>SOKEY ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>T-31</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca pratensis</i>	* FAC-	55	5	63	1
<i>Phleum pratense</i>		20	3	20.5	
<i>Bellis perennis</i>		10	2	10.5	
<i>Aspastis stolonifera</i>		25	3	20.5	
<i>Chrysanthemum leucanthemum</i>		10	2	10.5	
				<u>125</u>	
Moss		15			
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: 0%					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pokay - Typic Fluvaquert 0-4% Drainage Class: Drain - poor
 Taxonomic Classification: Coarse loamy over Sandy skeletal mixed Typic On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/2	—	—	Silt loam
2-14+		10YR 4/2	—	—	Fine Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):

- ☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☐ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches

Depth to Free Water in Pit: n/a inches

Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
☐ Saturated in upper 12 inches
☒ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes <u>No</u>	Is this Data Plot within a wetland?	Yes <u>No</u>
Hydric Soils Present?	Yes <u>No</u>		
Wetland Hydrology Present?	Yes <u>No</u>		

Rationale:

ALL CRITERIA ARE LACKING.

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARDEN LTD</u>	County: <u>Bonewah</u>
Investigator: <u>SEKIRY ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>T-32</u>

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Carex sp.</i>		5	1	3.0	
<i>Festuca arundinacea</i>		15	2	10.5	
<i>Agrostis scabra</i>		20	3	20.5	
<i>Alpeurus pratensis</i>	* FACW	35	4	38.0	1
<i>Phleum pratense</i>		15	2	10.5	
<i>Agrostis stolonifera</i>	* FAC	30	4	38.0	1
<i>Juncus sp.</i>		5	1	3.0	
				<u>133.5</u>	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC-: <u>100%</u>					
Remarks:					

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Pokey - Typic Fluvaquents</u>				Drainage Class: <u>SWPdr - Poor</u>	
Taxonomic Classification: <u>Correlating over Sandy Skeletal mixed Typic A</u>				On Hydric Soils List? <u>Yes</u> <u>No</u>	
Soil Profile Description <u>eryaquoll</u>					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7		10YR 2/2	7 1/2 YR 3/6	Common	Silt Loam
7-15+		10YR 4/2	7 1/2 YR 5/6	Common	Fine Sandy Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-15</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	<p>Secondary Indicators (2 or more required):</p> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> <u>No</u> Hydric Soils Present? <u>Yes</u> <u>No</u> Wetland Hydrology Present? <u>Yes</u> <u>No</u>	Is this Data Plot within a wetland? <u>Yes</u> <u>No</u>
<p>Rationale:</p> <p style="font-size: 1.2em;">All Criteria ARE SATISFIED.</p>	

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: T-23

VEGETATION

Remarks:

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): toler-typic Fluvaquents 0-490 Drainage Class: SW Poor - Poor
 Taxonomic Classification: Gross loam over Sandy Sclerol mixed Typic Cryaquoll On Hydric Soils List? (Yes) (No)

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8		10YR 2/2	—	—	Silt loam
8-15		10YR 3/2	10YR 4/2	Rare	Fine Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: Very poor & marginal indicators of Hydric conditions.

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0</u> inches Depth to Free Water in Pit: <u>n/o</u> inches Depth to Saturated Soil: <u>n/o</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>(Yes) No</u>	Is this Data Plot within a wetland? Yes <u>(No)</u>
Hydric Soils Present? <u>marginal (Yes) No</u>	
Wetland Hydrology Present? Yes <u>(No)</u>	
Rationale:	
<u>ONE CRITERIA PRESENT - FAC species</u> <u>ONE CRITERIA MARGINAL - SOILS</u> <u>ONE CRITERIA LACKING - HYDROLOGY</u>	

WETLAND DETERMINATION

Project/Site: <u>ST MARIES RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u>	County: <u>Bonewah</u>
Investigator: <u>SEXIER ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No	Community ID: _____
Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No	Transect ID: _____
Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Plot ID: <u>T-34</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Alopecurus pratensis</i>	* FACW	75	5	63	1
<i>Phleum pratensis</i>	* FAC-	25	3	20.5	2
<i>Agrostis stolonifera</i>		10	2	10.5	
				94	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC:- 50%					
Remarks: Marginally Positive Vegetation					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Poke - Typic Fluvaquents 0-4 Drainage Class: SW Poor - Poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic On Hydric Soils List? Yes No

Soil Profile Description <u>Cryaquoll</u>					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 4/3	—	—	Silt loam - sediments
2-8		10YR 3/2	7.5YR 4/6	Few	Silt loam
8-12		10YR 3/1	—	—	Silt loam
12-16+		10YR 4/2	—	—	Fine Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-12</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	<p>Secondary Indicators (2 or more required):</p> <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No	Is this Data Plot within a wetland?	<u>Yes</u> No
Hydric Soils Present?	<u>Yes</u> No		
Wetland Hydrology Present?	<u>Yes</u> No		
Rationale:			
<u>ALL CRITERIA ARE PRESENT.</u>			

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u> Investigator: <u>SOLIER ENVIRONMENTAL</u> Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Date: <u>6-7-9</u> <u>1998</u> County: <u>Bonaville</u> State: <u>SD</u> Community ID: _____ Transect ID: _____ Plot ID: <u>T-35</u>
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VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank	
Herbs:						
<i>Eragrostis rubra</i>	*	FAC+	45	4	38	1
<i>Phleum pratense</i>	*	FAC-	45	4	38	1
<i>Agrostis alabamica</i>	*	FAC	30	4	38	1
<i>Chrysanthemum leucanthemum</i>			10	2	10.5	
<i>Agropyron repens</i>			15	2	10.5	
				135		
Shrubs:						
Saplings:						
Trees:						
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>67%</u>						
Remarks:						

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Atkey - Typic Fluvaquents 0-4g Drainage Class: Substair - poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic A On Hydric Soils List? (Yes) (No)

Soil Profile Description Cragsall

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-7		10YR 3/2	—	—	SILT loam
7-14"		10YR 4/2	—	—	robby Fine Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input type="checkbox"/> Inundated</p> <p><input type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input checked="" type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>(Yes)</u> <u>No</u>	Is this Data Plot within a wetland?	Yes <u>(No)</u>
Hydric Soils Present?	Yes <u>(No)</u>		
Wetland Hydrology Present?	Yes <u>(No)</u>		
<p>Rationale:</p> <p><u>TWO CRITERIA ARE LACKING.</u></p>			

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u> Investigator: <u>SEVIER ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Benewah</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>T-37</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Carex vesicaria</i> (? lenticularis) *	OBL	75	5	63	1
<i>Alopecurus pratensis</i> *	FACW	30	4	38	2
<i>Glyceria</i> sp		10	2	10.5	
<i>Camassia quamash</i>		5	1	3	
<i>Agrostis stolonifera</i>		15	2	10.5	
				125	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pokay - Typic Fluvaquents 0-4% Drainage Class: SW Poor - Poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic Cryaquoll On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 2/2	—	—	Silt Loam
2-8		10YR 3/2	7.5YR 4/6	Common	Silt Loam
8-16+		10YR 4/2	7.5YR 4/4	Common	Silt Loam

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input checked="" type="checkbox"/> Aquic Moisture Regime
<input checked="" type="checkbox"/> Reducing Conditions
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|--|--|

Remarks:

HYDROLOGY

- Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tidal Gage
 - ☐ Aerial Photographs
 - ☐ Other (Explain in Remarks)
 - ☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-30 inches
 Depth to Free Water in Pit: n/o inches
 Depth to Saturated Soil: n/o inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☒ Inundated
- ☒ Saturated in upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>Yes</u> No	Is this Data Plot within a wetland?	<u>Yes</u> No
Hydric Soils Present?	<u>Yes</u> No		
Wetland Hydrology Present?	<u>Yes</u> No		

Rationale:

All Criteria Are Satisfied.

Project/Site: <u>ST MARGARET RIVER</u>	Date: <u>6-7-9</u> <u>1998</u>
Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u>	County: <u>Bernolach</u>
Investigator: <u>SELKIRK ENVIRONMENTAL</u>	State: <u>ID</u>
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area?	<div> <input checked="" type="radio"/> Yes <input type="radio"/> No </div> <div> <input type="radio"/> Yes <input checked="" type="radio"/> No </div> <div> <input type="radio"/> Yes <input checked="" type="radio"/> No </div>
	Community ID: _____ Transect ID: _____ Plot ID: <u>T-38</u>

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca rubra</i>	* FAC +	60	5	73	1
<i>Carex vesicaria</i>		7			
<i>Achillea millefolium</i>		20	3	20.5	
<i>Agrostis stolonifera</i>	* FAC	35	4	38	2
<i>Camassia quamash</i>		5	1	3	
				<u>134.5</u>	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Hayes-Typic Fluvaquents 0-470 Drainage Class: SW Pear - poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic On Hydric Soils List? (Yes) (No)
Soil Profile Description crucial soil

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 3/3	7.5YR 4/6	Few	Fine Sandy loam
4-16+		10YR 3/3	10YR 4/4	Few	Sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches

Depth to Free Water in Pit: n/o inches

Depth to Saturated Soil: n/o inches

Wetland Hydrology Indicators:

Primary Indicators:

☐ Inundated

☐ Saturated in upper 12 inches

☐ Water Marks

☒ Drift Lines

☐ Sediment Deposits

☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

☐ Oxidized Root Channels in upper 12 inches

☐ Water-Stained Leaves

☐ Local Soil Survey Data

☐ FAC-Neutral Test

☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>(Yes)</u> <u>(No)</u>	Is this Data Plot within a wetland?	<u>Yes</u> <u>(No)</u>
Hydric Soils Present?	<u>Yes</u> <u>(No)</u>		
Wetland Hydrology Present?	<u>Yes</u> <u>(No)</u>		

Rationale:

TWO CRITERIA ARE LACKING.

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARYS RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u> Investigator: <u>SOXIEK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Benaviah</u> State: <u>IO</u> Community ID: _____ Transect ID: _____ Plot ID: <u>T-39</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Carex vesicaria</i> *	OBL	100	7	93	1
<i>Rumex crispus</i>		T		93	
Shrubs:					
<i>Cortaderia darkei</i> *	FAC	30	4	38	1
<i>Alnus incana</i> *	FACW	20	3	20.5	2
				58.5	
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pokay - Typic Fluvaquents A-4% Drainage Class: SW Poor - Poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic Cryaquoll On Hydric Soils List? (Yes) (No)

Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-5		10YR 3/1	7 1/2 YR 4/6	Many	Loam
5-16"		10YR 4/1	-	-	Very gravelly sandy loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

HYDROLOGY

<p><input type="checkbox"/> Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input checked="" type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-12</u> inches</p> <p>Depth to Free Water in Pit: <u>0</u> inches</p> <p>Depth to Saturated Soil: <u>5</u> inches</p>	
<p>Remarks:</p>	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>(Yes)</u> No	Is this Data Plot within a wetland? <u>(Yes)</u> No
Hydric Soils Present? <u>(Yes)</u> No	
Wetland Hydrology Present? <u>(Yes)</u> No	
<p>Rationale:</p> <p><u>All Criteria Are Satisfied.</u></p>	

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARIES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARNET LTD</u> Investigator: <u>SELKIRK ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Bonanza</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>T-40</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Festuca rubra</i> *	FAC+	85	7	93	1
<i>Carex vestieria</i>		10	2	10.5	
<i>Solidago</i> sp		T			
<i>Chrysanthemum leucanthemum</i>		T			
<i>Bellis perennis</i>		10	2	10.5	
				114	
Shrubs:					
Saplings:					
Trees:					
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): fore - Typic Fluvaquents 0-4% Drainage Class: SW Poor - 100%
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic A On Hydric Soils List? ☒ Yes ☐ No

Soil Profile Description Cryaquoll

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 3/3	—	—	Sandy loam
4-17+		10YR 3/2	—	—	Sandy loam

Hydric Soil Indicators:

- | | |
|--|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
☐ Stream, Lake, or Tidal Gage
☐ Aerial Photographs
☒ Other (Explain in Remarks)
☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 inches

Depth to Free Water in Pit: n/a inches

Depth to Saturated Soil: n/a inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☒ Inundated
☐ Saturated in upper 12 inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?

☒ Yes ☐ No

Hydric Soils Present?

☐ Yes ☒ No

Wetland Hydrology Present?

☐ Yes ☒ No

Is this Data Plot within a wetland?

Yes ☒ No

Rationale:

TWO CRITERIA ARE LACKING.

WETLAND DETERMINATION

Community ID: _____
Transect ID: _____
Plot ID: T-41

VEGETATION

Remarks:

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): <u>Takey-Typic Fluvaquents 0-49a</u>				Drainage Class: <u>SW Bar - 100%</u>	
Taxonomic Classification: <u>Coarse loam over sandy skeletal mixed Typic A</u>				On Hydric Soils List? Yes No	
Soil Profile Description					
Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6		10YR 2/2	7 1/2 YR 4/6	Few	Silt Loam
6-17+		10YR 3/2	7 1/2 YR 4/6	Common	Fine Sandy Loam

Hydric Soil Indicators:

<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input checked="" type="checkbox"/> Aquic Moisture Regime <input checked="" type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Remarks:

HYDROLOGY

<p>Recorded Data (Describe in Remarks):</p> <p><input type="checkbox"/> Stream, Lake, or Tidal Gage</p> <p><input type="checkbox"/> Aerial Photographs</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input checked="" type="checkbox"/> No Recorded Data Available</p>	<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators:</p> <p><input checked="" type="checkbox"/> Inundated</p> <p><input checked="" type="checkbox"/> Saturated in upper 12 inches</p> <p><input type="checkbox"/> Water Marks</p> <p><input type="checkbox"/> Drift Lines</p> <p><input type="checkbox"/> Sediment Deposits</p> <p><input type="checkbox"/> Drainage Patterns in Wetlands</p> <p>Secondary Indicators (2 or more required):</p> <p><input type="checkbox"/> Oxidized Root Channels in upper 12 inches</p> <p><input type="checkbox"/> Water-Stained Leaves</p> <p><input type="checkbox"/> Local Soil Survey Data</p> <p><input type="checkbox"/> FAC-Neutral Test</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
<p>Field Observations:</p> <p>Depth of Surface Water: <u>0-6</u> inches</p> <p>Depth to Free Water in Pit: <u>n/a</u> inches</p> <p>Depth to Saturated Soil: <u>n/a</u> inches</p>	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes No	Is this Data Plot within a wetland? Yes No
Hydric Soils Present? Yes No	
Wetland Hydrology Present? Yes No	
<p>Rationale:</p> <p style="font-size: 1.2em;">ALL CRITERIA ARE PRESENT.</p>	

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: T-42

VEGETATION

Remarks:

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Pokey - Typic Fluvaquents 0-4g Drainage Class: SW Poor - Poor
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic Cryosol On Hydric Soils List? Yes No

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3		10YR 3/3	—	—	Loamy sand
3-4		10YR 6/2	—	—	Sand
4-16+		10YR 4/2	7 1/2 YR 4/4	Common	Sandy loam

Hydric Soil Indicators:

- | | |
|---|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input checked="" type="checkbox"/> Aquic Moisture Regime
<input checked="" type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tidal Gage <input type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other (Explain in Remarks) <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in upper 12 inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in upper 12 inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>0-6</u> inches Depth to Free Water in Pit: <u>n/a</u> inches Depth to Saturated Soil: <u>n/a</u> inches	
Remarks:	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <u>Yes</u> No Hydric Soils Present? <u>Yes</u> No Wetland Hydrology Present? <u>Yes</u> No	Is this Data Plot within a wetland? <u>Yes</u> No
Rationale: <p style="text-align: center; font-size: 1.2em;">All CRITERIA ARE SATISFIED</p>	

**DATA FORM
WETLAND DETERMINATION**

Project/Site: <u>ST MARGES RIVER</u> Applicant/Owner: <u>EMERALD CREEK GARDEN LTD</u> Investigator: <u>SEKIRI ENVIRONMENTAL</u>	Date: <u>6-7-9 1998</u> County: <u>Bonaville</u> State: <u>ID</u>
Do Normal Circumstances exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No	Community ID: _____ Transect ID: _____ Plot ID: <u>T-43</u>

VEGETATION

Species	Indicator Status	Areal Cover (%)	Cover Class	Cover Class Midpoint	Rank
Herbs:					
<i>Cirsium arvense</i>		15	2	10.5	
<i>Phalaris arundinacea</i>	* FACW	45	4	38	1
<i>Agrostis stolonifera</i>	* FAC	25	3	20.5	2
<i>Festuca pratensis</i>		10	2	10.5	
				71.5	
Shrubs:					
<i>Crotaegus douglasii</i>		TR			
Saplings:					
Trees:					
<i>Populus balsamifera</i>	* FAC	35	4	38	1
				38	
Percent of Dominant Species that are OBL, FACW, or FAC, excluding FAC: <u>100%</u>					
Remarks:					

Cover class midpoints: T<1% (none): 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Peay - Typic Fluvaquents 0-4% Drainage Class: SW Peay - Peay
 Taxonomic Classification: Coarse loamy over sandy skeletal mixed Typic On Hydric Soils List? (Yes) (No)

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2		10YR 3/2	—	—	Sandy loam
2-6		10YR 3/3	—	—	Sandy loam
6-18+		10YR 3/1	7.5YR 4/6	Few	Loamy sand

Hydric Soil Indicators:

- | | |
|---|---|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Concretions |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Organic Streaking in Sandy Soils |
| <input type="checkbox"/> Aquic Moisture Regime | <input type="checkbox"/> Listed on Local Hydric Soils List |
| <input checked="" type="checkbox"/> Reducing Conditions | <input type="checkbox"/> Listed on National Hydric Soils List |
| <input checked="" type="checkbox"/> Gleyed or Low-Chroma Colors | <input type="checkbox"/> Other (Explain in Remarks) |

Remarks:

HYDROLOGY

- ☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tidal Gage
 - ☐ Aerial Photographs
 - ☐ Other (Explain in Remarks)
 - ☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-6 inches

Depth to Free Water in Pit: n/o inches

Depth to Saturated Soil: n/o inches

Wetland Hydrology Indicators:

Primary Indicators:

- ☒ Inundated
- ☒ Saturated in upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	<u>(Yes)</u> No	Is this Data Plot within a wetland?	<u>(Yes)</u> No
Hydric Soils Present?	<u>(Yes)</u> No		
Wetland Hydrology Present?	<u>(Yes)</u> No		

Rationale:

ALL CRITERIA ARE SATISFIED.

WETLAND DETERMINATION

Community ID: _____
 Transect ID: _____
 Plot ID: T-44

VEGETATION

Remarks:

Cover class midpoints: T<1% (none); 1 = 1-5% (3.0); 2 = 6-15% (10.5); 3 = 16-25% (20.5); 4 = 26-50% (38.0); 5 = 51-75% (63.0); 6 = 76-95% (85.5); 7 = 96-100% (98.0).

To determine the dominant species, first rank the species by the midpoints of their cover classes. Then, cumulatively sum the midpoints of the ranked species until 50% of the total for all species' midpoints (for each layer) is immediately exceeded. All species contributing to that cumulative total plus any additional species having 20% of the total midpoint value should be considered dominants, and marked with an asterisk.

SOILS

Map Unit Name (Series and Phase): Clayey Silt Loam 0-2% Drainage Class: POOR
 Taxonomic Classification: Finesilty mixedacid/neutral/alkaline endosol On Hydric Soils List? Yes ☐ No ☒

Soil Profile Description

Depth	Horizon	Matrix Color	Mottle Color	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4		10YR 4/2	7.5YR 4/4	FEW	Sandy loam
4-13"		10YR 3/3	7.5YR 4/4	Common	Loamy sand

Hydric Soil Indicators:

- | | | |
|---|--------|--|
| <input type="checkbox"/> Histosol
<input type="checkbox"/> Histic Epipedon
<input type="checkbox"/> Sulfidic Odor
<input type="checkbox"/> Aquic Moisture Regime
<input type="checkbox"/> Reducing Conditions
<input type="checkbox"/> Gleyed or Low-Chroma Colors | ϕ | <input type="checkbox"/> Concretions
<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils
<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Other (Explain in Remarks) |
|---|--------|--|

Remarks:

HYDROLOGY

- Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tidal Gage
- ☐ Aerial Photographs
- ☐ Other (Explain in Remarks)
- ☒ No Recorded Data Available

Wetland Hydrology Indicators:

Primary Indicators:

- ☐ Inundated
- ☐ Saturated in upper 12 inches
- ϕ ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- ☐ Oxidized Root Channels in upper 12 inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Field Observations:

Depth of Surface Water: 0 inches

Depth to Free Water in Pit: n/a inches

Depth to Saturated Soil: n/a inches

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No Hydric Soils Present? <input type="radio"/> Yes <input checked="" type="radio"/> No Wetland Hydrology Present? <input type="radio"/> Yes <input checked="" type="radio"/> No	Is this Data Plot within a wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Rationale:

Two Criteria Are Lacking.

APPENDIX E: FUNCTION AND VALUE METHODOLOGY

Wetlands are known to perform dynamic roles in many ecosystems, providing intrinsic ecological functions as well as functions having immediate value to society. Although these functions are complex, interrelated, and difficult to assess and quantify, several methods have been developed for wetlands evaluation (Adamus et al. 1987; Reppert et al. 1979; and others). Valuable functions described below include shoreline protection, hydrologic support, storm and flood water storage, ground water exchange, water quality improvement, and natural biologic support.

Shoreline Protection

Wetlands located along the shorelines of rivers and large bodies of water can reduce the erosive forces of waves and currents. Wetland vegetation prevents erosion by causing waves to break, dissipating wave energy. Physical characteristics that determine the value of wetlands for shoreline protection include vegetation structure and density, and wetland width.

Wetland vegetation, especially tall and rigid plants, dissipate wave energy by causing turbulence as waves pass. Plant roots also bind and stabilize shorelines. More dense and developed root systems provide greater erosion control. Given these two physical factors, wetlands with woody vegetation provide more shoreline protection than areas comprised of emergents or sparsely growing grass. The width of a wetland, or the distance it extends from shoreline, also influences the degree of shoreline protection. Wetlands extending more than 200 yards from shore are given high values, those extending 100 to 200 yards from shore are given moderate ratings, and those extending less than 100 yards from shore are given low ratings. Proximity of wetlands relative to developments is also important when assessing values for shoreline protection. Wetlands along highly developed shorelines provide greater protection of social merit and are given high values. Wetlands along moderately developed shorelines are given moderate values, and those along undeveloped shorelines are given low values.

Hydrologic Support

Just as the water retention capability of wetlands helps to moderate storm and flood flows and can recharge ground water, the slow release of water from wetlands helps to maintain base flows of streams as well as to maintain a stable water regime in lakes and in the wetland itself. Hydrologic support varies with a wetland's periodicity of saturation, and open or closed drainage system. Permanently saturated or inundated wetlands provide hydrology to streams and lakes continually and are given a high value. Wetlands with seasonal flooding are given moderate values and those that are temporarily saturated are given low values. Open tidal systems provide slow release of waters on a daily basis and are given high values. Wetlands in open drainage systems hold and release waters on a seasonal basis and are given moderate values. Isolated wetlands have little opportunity for hydrologic support and are given low values.

Storm and Flood Water Abatement

Many wetlands, specifically those hydrologically associated with rivers and streams, are important for water storage and flood retardation during periods of flood or storm water discharge. These wetlands retain high flows, slow flood velocities, and minimize flood peaks. By retaining water that would otherwise be conveyed into open flow channels, wetlands can reduce or modify potentially damaging effects of flood flows downstream. Storm and flood water abatement capability varies with a wetland's size, vegetative cover, and proximity to developed areas. A high value is given to wetlands exceeding 10 acres in size, a moderate value for wetlands from 5 to 10 acres in size, and low values for wetlands less than 5 acres in size. High value for flood retardation is given to wetlands with more than 30 percent woody aerial cover, a moderate value to wetlands with 10 to 30 percent woody aerial cover, and a low value to wetlands with less than 10 percent woody aerial cover. These wetland physical characteristics must be compared to the potential flood damage of adjacent or downstream developments. Thus, a wetland in an urban area would have greater value for this function than a wetland of identical character in a rural or remote setting.

Ground Water Exchange

Wetlands may be sustained by ground water which approaches the ground surface during some part of the year, in which case they are ground water discharge areas. Other wetlands which are sustained by precipitation or flooding, may be ground water recharge areas. The same wetland may also vary seasonally from being a discharge area to being a recharge area. In theory, this interchange occurs; in practice it is more controversial and difficult to observe. The best application of this function is the seasonal collection of run-off and eventual percolation into an aquifer.

Ground water exchange is determined by a complex system of interactions between the underlying geology, soils, and surface topography. Wetland size, permeability of substrate, dead storage capacity, and inundation frequency all contribute to a wetland's ability for ground water exchange. Values vary directly with wetland size, substrate permeability, dead storage capacity, and inundation frequency, i.e., large wetlands with a permeable substrate and several feet of dead storage are given high values.

Water Quality Improvement

Wetlands function to naturally purify water by removing organic and mineral particulate matter through a variety of chemical, physical, and biological processes. For example, particles settle out of slowed wetland flow and adhere to dense wetland vegetation. Dense vegetation also enhances the alga and bacterial activity necessary for organic degradation and biochemical uptake of particulate. Wetland conditions may also promote ion exchange which alters chemical pollutants, as well as precipitate chemicals out of the water flow (Reppert et al. 1979). Because wetlands are often transitional systems existing between terrestrial and deep aquatic systems, they can intercept surface water run-off before it reaches open water. Although water quality improvement is relatively subjective, four characteristics can be used to assess the potential for water purification. These characteristics include a wetland's size, inundation regime, vegetative cover, proximity to pollution sources, and its configuration.

Larger wetlands provide a greater surface area for purification processes. Wetlands exceeding 100 acres in size are given high values, those from 10 to 100 acres in size are valued as moderate, and wetlands less than 10 acres in size are valued low for this function. Regular exposure of bottom materials to aerobic decomposition processes increases the breakdown of organic materials. Thus, regularly inundated wetlands such as estuaries are given a high value, irregularly flooded systems and lakes are given a moderate value, and intermittently flooded systems are given a low value. Since high plant density provides a greater surface area for the processes of water purification, wetlands with more than 80 percent plant cover are given a high value, wetlands with 50 to 80 percent plant cover are given a moderate value, and wetlands with less than 50 percent plant cover are given a low value. The location of a wetland relative to sources of pollution are important when assessing this function. Wetlands located below a known source of point pollution, such as municipal waste, are given a high value. Wetlands located adjacent to or below sources of non-point pollution, such as herbicide, pesticide, or fertilizer sources are given a moderate value. Wetlands that have no proximity to point or non-point sources are given a low value. The configuration of a wetland, including its topographic position, width / depth ratio, and open or closed nature are also important characteristics for this function. A wetland configured to retain more than 50 percent of overland flow is given a high value. A wetland configured to retain 25 to 50 percent of overland flow is given a moderate value, and a wetland retaining less than 25 percent of overland flow is given a low value.

Natural Biologic Support

Occupying a transitional zone between terrestrial and aquatic environments, wetlands are productive aquatic ecosystems comprised of complex niches for nesting, spawning, rearing, and feeding by many aquatic and terrestrial species. As a basis for food chain productivity and habitats, their natural biologic functions are assessed by their biological production and the habitat they provide.

Biological production of wetlands can be evaluated by their primary productivity, i.e., the rate at which green plants photosynthesize and produce biomass. Since marsh vegetation produces larger amounts of vegetative bio-mass faster than other aquatic communities, marshes are given a high value for this function. Shrub and forested wetlands are given moderate values and wetlands lacking vegetation are given low values. The ability to transport nutrients from biomass decomposition is based on a wetland's hydrologic characteristics. Wetlands exporting more vegetative material, including intertidal marshes or wetlands associated with rivers, are given high values for nutrient transport. A moderate value is given to uppertidal marshes, freshwater wetlands associated with intermittent streams, and some lakes. Low values are given to wetlands that export little vegetative material, such as isolated wetlands or wetlands associated with ephemeral streams.

In addition to biological productivity, wetlands provide habitat for both aquatic and terrestrial organisms. Wetlands are critical for the survival of water-dependent species. For other species, wetlands provide seasonal feeding, rearing, spawning, and cover opportunities that may be critical factors for their survival as well. Criteria used to evaluate the habitat value of wetlands include habitat type diversity, plant community diversity, and special habitat features. Habitat type diversity is a reflection of the communities structure, i.e., its layers, synusia (morphological layering), and niches that are available for habitat utilization. Plant community diversity is a reflection of the communities plant species diversity, age class diversity, and phenologic expression. Special habitat features are non-living structural components of wetlands, including downed logs, snags, backwaters, undercut banks, etc., that attract a wider range of wildlife species to an area. Wetlands comprised of a greater number of habitat types, plant communities, and special habitat features are given a high value. Those wetlands lacking some of these features are given moderate values, and those wetlands lacking many of these features are given low values.

Wetlands can also provide specialized habitats, or habitats for specialized species, specifically, those that are water dependent or are listed as threatened, endangered, or sensitive. Wetlands providing specialized habitat are recognized as having necessary nesting, spawning, rearing, feeding, and/or wintering opportunities for special wildlife species. Wetlands that are known to support, or have supported in the past, special plant or animal species are given a high value. Wetlands that have the potential to support special species are given a moderate value and wetlands that do not provide habitat suitable for special species are given low values.

These six functions are individually rated low, moderate, or high, based on criteria summarized in the following table. Once individual values are determined, overall values can be determined by interpolating and averaging individual values. These criteria are guidelines compiled from Adamus, Reppert, and others, and professional judgment must be exercised in assessing these criteria.

Rationale for Wetland Function Evaluation**

	Low Criteria	Moderate Criteria	High Criteria
Shoreline Protection	<ul style="list-style-type: none"> • sparse herbaceous layer or no vegetation • wetland extends < 100 yards from shore • located along undeveloped shoreline 	<ul style="list-style-type: none"> • sparse woody, or dense herbaceous vegetation • wetland extends 100 - 200 yards from shore • located on moderately developed shoreline 	<ul style="list-style-type: none"> • dense woody vegetation • wetland extends > 200 yards from shore • located on highly developed shoreline
Hydrologic Support	<ul style="list-style-type: none"> • isolated depression • temporary saturation or inundation 	<ul style="list-style-type: none"> • open drainage system • seasonally flooded 	<ul style="list-style-type: none"> • open tidal system • permanent saturation or inundation
Storm / Flood Water Abatement	<ul style="list-style-type: none"> • size < 5 acres • in remote areas • < 10 % woody vegetation 	<ul style="list-style-type: none"> • size 5 - 10 acres • in rural areas • 10 - 30 % woody vegetation 	<ul style="list-style-type: none"> • size > 10 acres • in urban areas • > 30 % woody vegetation
Groundwater Exchange	<ul style="list-style-type: none"> • size < 5 acres • isolated depressions • temporarily saturated or inundated • impermeable substrate 	<ul style="list-style-type: none"> • size 5 - 10 acres • seasonally flooded open system • permanent shallow inundation • semipermeable substrate 	<ul style="list-style-type: none"> • size > 10 acres • permanently flooded system • deep inundation • permeable substrate
Water Quality Improvement	<ul style="list-style-type: none"> • intermittently flooded wetland • < 50 % vegetation density • size < 10 acres • no proximity to non-point pollutants • retains < 25 % of overland runoff 	<ul style="list-style-type: none"> • lakes • 50 - 80 % vegetation density • size 10 - 100 acres • downstream from nonpoint discharge • retains 25 - 50 % of overland runoff 	<ul style="list-style-type: none"> • estuary or perennial stream • > 80 % vegetation density • size > 100 acres • downstream from municipal point discharges • retains > 50 % of overland runoff
Natural Biologic Support	<ul style="list-style-type: none"> • vegetation lacking • isolated systems • wetland associated with ephemeral streams • low plant community diversity • single synusiae • special habitat features lacking • no unique species • no water-dependent species • relatively small size • adjacent to minor fishery 	<ul style="list-style-type: none"> • shrub / forested swamp • upper tidal marsh • wetland associated with intermittent streams • moderate plant community diversity • several synusiae • special habitat features present • unique species potentially present • has water-dependent species potential • relatively medium size • adjacent to valuable fishery 	<ul style="list-style-type: none"> • marsh or bog • intertidal marshes • wetland associated with permanent streams • high plant community diversity • many synusiae • complex special habitat features present • unique species present • water-dependent species present • relatively large size • adjacent to significant fishery

** Table compiled by SELKIRK ENVIRONMENTAL, 1993

APPENDIX F: FUNCTION AND VALUE WORK SHEETS

Wetland #: PEM1E 50.2AC

Field Rating Form for Wetland Function Evaluation**

Project: SML4041

Date: Sep 98

	o n s i t e	o v e r l a n d	Criteria for Low Value	o n s i t e	o v e r l a n d	Criteria for Moderate Value	o n s i t e	o v e r l a n d	Criteria for High Value
Shoreline Protection	<input type="checkbox"/>	<input type="checkbox"/>	sparse herbaceous layer or no vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	sparse woody or dense herbaceous veg.	<input type="checkbox"/>	<input type="checkbox"/>	dense woody vegetation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	wetland extends < 100 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends 100-200 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends > 200 yards from shore
	<input type="checkbox"/>	<input type="checkbox"/>	located along undeveloped shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on moderately developed shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on highly developed shoreline
Hydrologic Support	<input type="checkbox"/>	<input type="checkbox"/>	isolated depression	<input checked="" type="checkbox"/>	<input type="checkbox"/>	open drainage system	<input type="checkbox"/>	<input type="checkbox"/>	open tidal system
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	temporary saturation or inundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded	<input type="checkbox"/>	<input type="checkbox"/>	permanent saturation or inundation
						N/A			
Storm / Flood Water Abatement	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in remote settings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in rural settings	<input type="checkbox"/>	<input type="checkbox"/>	in urban settings
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 10 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	10 - 30 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	> 30 % woody vegetation
						MODERATE			
Groundwater Exchange	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	isolated depressions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded open system	<input type="checkbox"/>	<input type="checkbox"/>	permanently flooded system
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	temporarily saturated or inundated	<input type="checkbox"/>	<input type="checkbox"/>	permanent shallow inundation	<input type="checkbox"/>	<input type="checkbox"/>	deep inundation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	impermeable substrate CLARKIA CLA	<input type="checkbox"/>	<input type="checkbox"/>	semipermeable substrate	<input type="checkbox"/>	<input type="checkbox"/>	permeable substrate
						LOW - MODERATE			
Water Quality Improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intermittently flooded wetland	<input type="checkbox"/>	<input type="checkbox"/>	lakes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	estuary or perennial stream
	<input type="checkbox"/>	<input type="checkbox"/>	< 50 % vegetation density	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50 - 80 % vegetation density	<input type="checkbox"/>	<input type="checkbox"/>	> 80 % vegetation density
	<input type="checkbox"/>	<input type="checkbox"/>	size < 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 10 - 100 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 100 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no proximity to non-point discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	downstream from non-point discharge	<input type="checkbox"/>	<input type="checkbox"/>	downstream from municipal point discharge
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	retains < 25 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains 25 - 50 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains > 50 % of overland flow
						MODERATE			
Natural Biologic Support	<input type="checkbox"/>	<input type="checkbox"/>	vegetation lacking	<input type="checkbox"/>	<input type="checkbox"/>	shrub / forested swamp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(marsh or bog
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	isolated system	<input type="checkbox"/>	<input type="checkbox"/>	upper tidal marsh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intertidal marshes
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	associated with ephemeral streams	<input type="checkbox"/>	<input type="checkbox"/>	associated with intermittent stream	<input type="checkbox"/>	<input type="checkbox"/>	associated with permanent stream
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	low plant community diversity	<input type="checkbox"/>	<input type="checkbox"/>	moderate plant community diversity	<input type="checkbox"/>	<input type="checkbox"/>	high plant community diversity
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	single synusiae	<input type="checkbox"/>	<input type="checkbox"/>	several synusiae	<input type="checkbox"/>	<input type="checkbox"/>	many synusiae
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	special habitat features lacking	<input type="checkbox"/>	<input type="checkbox"/>	special habitat features present	<input type="checkbox"/>	<input type="checkbox"/>	complex special habitat features present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no unique species	<input type="checkbox"/>	<input type="checkbox"/>	unique species potentially present	<input type="checkbox"/>	<input type="checkbox"/>	unique species present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no water dependent species	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species potential	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species present
	<input type="checkbox"/>	<input type="checkbox"/>	relatively small size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	relatively medium size	<input type="checkbox"/>	<input type="checkbox"/>	relatively large size
	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to minor fishery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	adjacent to valuable fishery	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to significant fishery
						LOW - MOD			

Wetland #: PEMIEF 22.0AC

Field Rating Form for Wetland Function Evaluation**

Project: SMR 404 Date: Sep 98

	Criteria for Low Value	Criteria for Moderate Value	Criteria for High Value
Shoreline Protection	<input type="checkbox"/> sparse herbaceous layer or no vegetation <input type="checkbox"/> wetland extends < 100 yards from shore <input type="checkbox"/> located along undeveloped shoreline	<input checked="" type="checkbox"/> sparse woody or dense herbaceous veg. <input type="checkbox"/> wetland extends 100-200 yards from shore <input type="checkbox"/> located on moderately developed shoreline <u>N/A</u>	<input type="checkbox"/> dense woody vegetation <input type="checkbox"/> wetland extends > 200 yards from shore <input type="checkbox"/> located on highly developed shoreline
Hydrologic Support	<input checked="" type="checkbox"/> isolated depression <input checked="" type="checkbox"/> temporary saturation or inundation	<input checked="" type="checkbox"/> open drainage system - <u>TRBS</u> <input type="checkbox"/> seasonally flooded <u>LOW</u>	<input type="checkbox"/> open tidal system <input type="checkbox"/> permanent saturation or inundation
Storm / Flood Water Abatement	<input type="checkbox"/> size < 5 acres <input type="checkbox"/> in remote settings <input checked="" type="checkbox"/> < 10 % woody vegetation	<input checked="" type="checkbox"/> size 5 - 10 acres <input type="checkbox"/> in rural settings <input type="checkbox"/> 10 - 30 % woody vegetation <u>MODERATE</u>	<input checked="" type="checkbox"/> size > 10 acres <input type="checkbox"/> in urban settings <input type="checkbox"/> > 30 % woody vegetation
Groundwater Exchange	<input type="checkbox"/> size < 5 acres <input checked="" type="checkbox"/> isolated depressions <input checked="" type="checkbox"/> temporarily saturated or inundated <input checked="" type="checkbox"/> impermeable substrate <u>CLAY & CLAYS</u>	<input checked="" type="checkbox"/> size 5 - 10 acres <input type="checkbox"/> seasonally flooded open system <input type="checkbox"/> permanent shallow inundation <input type="checkbox"/> semipermeable substrate <u>LOW - MODERATE</u>	<input checked="" type="checkbox"/> size > 10 acres <input type="checkbox"/> permanently flooded system <input type="checkbox"/> deep inundation <input type="checkbox"/> permeable substrate
Water Quality Improvement	<input checked="" type="checkbox"/> intermittently flooded wetland <input type="checkbox"/> < 50 % vegetation density <input type="checkbox"/> size < 10 acres <input checked="" type="checkbox"/> no proximity to non-point discharge <input checked="" type="checkbox"/> retains < 25 % of overland runoff	<input type="checkbox"/> lakes <input checked="" type="checkbox"/> 50 - 80 % vegetation density <input checked="" type="checkbox"/> size 10 - 100 acres <input type="checkbox"/> downstream from non-point discharge <input type="checkbox"/> retains 25 - 50 % of overland runoff <u>LOW</u>	<input type="checkbox"/> estuary or perennial stream <input type="checkbox"/> > 80 % vegetation density <input type="checkbox"/> size > 100 acres <input type="checkbox"/> downstream from municipal point discharge <input type="checkbox"/> retains > 50 % of overland flow
Natural Biologic Support	<input type="checkbox"/> vegetation lacking <input type="checkbox"/> isolated system <input checked="" type="checkbox"/> associated with ephemeral streams <input checked="" type="checkbox"/> low plant community diversity <input checked="" type="checkbox"/> single synusiae <input checked="" type="checkbox"/> special habitat features lacking <input checked="" type="checkbox"/> no unique species <input checked="" type="checkbox"/> no water dependent species <input checked="" type="checkbox"/> relatively small size <input checked="" type="checkbox"/> adjacent to minor fishery	<input type="checkbox"/> shrub / forested swamp <input type="checkbox"/> upper tidal marsh <input type="checkbox"/> associated with intermittent stream <input type="checkbox"/> moderate plant community diversity <input checked="" type="checkbox"/> several synusiae <input type="checkbox"/> special habitat features present <input type="checkbox"/> unique species potentially present <input type="checkbox"/> water dependent species potential <input checked="" type="checkbox"/> relatively medium size <input type="checkbox"/> adjacent to valuable fishery <u>LOW</u>	<input type="checkbox"/> marsh or bog <input type="checkbox"/> intertidal marshes <input type="checkbox"/> associated with permanent stream <input type="checkbox"/> high plant community diversity <input type="checkbox"/> many synusiae <input type="checkbox"/> complex special habitat features present <input type="checkbox"/> unique species present <input type="checkbox"/> water dependent species present <input type="checkbox"/> relatively large size <input type="checkbox"/> adjacent to significant fishery

Wetland #: PEMLF 4.4 AC

Field Rating Form for Wetland Function Evaluation**

Project: SM2404 Date: Sep 78

	o n s i t e	o v e r l a n d	Criteria for Low Value	o n s i t e	o v e r l a n d	Criteria for Moderate Value	o n s i t e	o v e r l a n d	Criteria for High Value
Shoreline Protection	<input type="checkbox"/>	<input type="checkbox"/>	sparse herbaceous layer or no vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	sparse woody or dense herbaceous veg.	<input type="checkbox"/>	<input type="checkbox"/>	dense woody vegetation
	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends < 100 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends 100-200 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends > 200 yards from shore
	<input type="checkbox"/>	<input type="checkbox"/>	located along undeveloped shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on moderately developed shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on highly developed shoreline
						N/A			
Hydrologic Support	<input type="checkbox"/>	<input type="checkbox"/>	isolated depression	<input checked="" type="checkbox"/>	<input type="checkbox"/>	open drainage system	<input type="checkbox"/>	<input type="checkbox"/>	open tidal system
	<input type="checkbox"/>	<input type="checkbox"/>	temporary saturation or inundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded	<input type="checkbox"/>	<input type="checkbox"/>	permanent saturation or inundation
						MODERATE			
Storm / Flood Water Abatement	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in remote settings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in rural settings	<input type="checkbox"/>	<input type="checkbox"/>	in urban settings
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 10 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	10 - 30 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	> 30 % woody vegetation
						MODERATE			
Groundwater Exchange	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	isolated depressions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded open system	<input type="checkbox"/>	<input type="checkbox"/>	permanently flooded system
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	temporarily saturated or inundated	<input type="checkbox"/>	<input type="checkbox"/>	permanent shallow inundation	<input type="checkbox"/>	<input type="checkbox"/>	deep inundation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	impermeable substrate CLAY & CLAY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	semipermeable substrate	<input type="checkbox"/>	<input type="checkbox"/>	permeable substrate
						LOW - MODERATE			
Water Quality Improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intermittently flooded wetland	<input type="checkbox"/>	<input type="checkbox"/>	lakes	<input type="checkbox"/>	<input type="checkbox"/>	estuary or perennial stream
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 50 % vegetation density	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50 - 80 % vegetation density	<input type="checkbox"/>	<input type="checkbox"/>	> 80 % vegetation density
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size < 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size 10 - 100 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 100 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no proximity to non-point discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	downstream from non-point discharge	<input type="checkbox"/>	<input type="checkbox"/>	downstream from municipal point discharge
	<input type="checkbox"/>	<input type="checkbox"/>	retains < 25 % of overland runoff	<input checked="" type="checkbox"/>	<input type="checkbox"/>	retains 25 - 50 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains > 50 % of overland flow
						MODERATE			
Natural Biologic Support	<input type="checkbox"/>	<input type="checkbox"/>	vegetation lacking	<input type="checkbox"/>	<input type="checkbox"/>	shrub / forested swamp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	marsh or bog
	<input type="checkbox"/>	<input type="checkbox"/>	isolated system	<input type="checkbox"/>	<input type="checkbox"/>	upper tidal marsh	<input type="checkbox"/>	<input type="checkbox"/>	intertidal marshes
	<input type="checkbox"/>	<input type="checkbox"/>	associated with ephemeral streams	<input type="checkbox"/>	<input type="checkbox"/>	associated with intermittent stream	<input checked="" type="checkbox"/>	<input type="checkbox"/>	associated with permanent stream
	<input type="checkbox"/>	<input type="checkbox"/>	low plant community diversity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	moderate plant community diversity	<input type="checkbox"/>	<input type="checkbox"/>	high plant community diversity
	<input type="checkbox"/>	<input type="checkbox"/>	single synusia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	several synusia	<input type="checkbox"/>	<input type="checkbox"/>	many synusia
	<input type="checkbox"/>	<input type="checkbox"/>	special habitat features lacking	<input checked="" type="checkbox"/>	<input type="checkbox"/>	special habitat features present	<input type="checkbox"/>	<input type="checkbox"/>	complex special habitat features present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no unique species	<input type="checkbox"/>	<input type="checkbox"/>	unique species potentially present	<input type="checkbox"/>	<input type="checkbox"/>	unique species present
	<input type="checkbox"/>	<input type="checkbox"/>	no water dependent species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	water dependent species potential	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	relatively small size	<input type="checkbox"/>	<input type="checkbox"/>	relatively medium size	<input type="checkbox"/>	<input type="checkbox"/>	relatively large size
	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to minor fishery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	adjacent to valuable fishery	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to significant fishery
						MODERATE			

etland #: PEM1H - 2.2AC

Field Rating Form for Wetland Function Evaluation**

Project: SMR404 Date: Sep 98

	o n s i t e	o v e r a l	Criteria for Low Value	o n s i t e	o v e r a l	Criteria for Moderate Value	o n s i t e	o v e r a l	Criteria for High Value
Shoreline Protection	<input type="checkbox"/>	<input type="checkbox"/>	sparse herbaceous layer or no vegetation	<input type="checkbox"/>	<input type="checkbox"/>	sparse woody or dense herbaceous veg.	<input type="checkbox"/>	<input type="checkbox"/>	dense woody vegetation
	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends < 100 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends 100-200 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends > 200 yards from shore
	<input type="checkbox"/>	<input type="checkbox"/>	located along undeveloped shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on moderately developed shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on highly developed shoreline
Hydrologic Support	<input type="checkbox"/>	<input type="checkbox"/>	isolated depression	<input checked="" type="checkbox"/>	<input type="checkbox"/>	open drainage system	<input type="checkbox"/>	<input type="checkbox"/>	open tidal system
	<input type="checkbox"/>	<input type="checkbox"/>	temporary saturation or inundation	<input type="checkbox"/>	<input type="checkbox"/>	seasonally flooded	<input checked="" type="checkbox"/>	<input type="checkbox"/>	permanent saturation or inundation
Storm / Flood Water Abatement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input type="checkbox"/>	<input type="checkbox"/>	in remote settings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in rural settings	<input type="checkbox"/>	<input type="checkbox"/>	in urban settings
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 10 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	10 - 30 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	> 30 % woody vegetation
Groundwater Exchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input type="checkbox"/>	<input type="checkbox"/>	isolated depressions	<input type="checkbox"/>	<input type="checkbox"/>	seasonally flooded open system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	permanently flooded system
	<input type="checkbox"/>	<input type="checkbox"/>	temporarily saturated or inundated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	permanent shallow inundation	<input type="checkbox"/>	<input type="checkbox"/>	deep inundation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	impermeable substrate <u>CLAYEIA CLAYS</u>	<input type="checkbox"/>	<input type="checkbox"/>	semipermeable substrate	<input type="checkbox"/>	<input type="checkbox"/>	permeable substrate
Water Quality Improvement	<input type="checkbox"/>	<input type="checkbox"/>	intermittently flooded wetland	<input checked="" type="checkbox"/>	<input type="checkbox"/>	lakes	<input type="checkbox"/>	<input type="checkbox"/>	estuary or perennial stream
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 50 % vegetation density	<input type="checkbox"/>	<input type="checkbox"/>	50 - 80 % vegetation density	<input type="checkbox"/>	<input type="checkbox"/>	> 80 % vegetation density
	<input type="checkbox"/>	<input type="checkbox"/>	size < 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 10 - 100 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 100 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no proximity to non-point discharge	<input type="checkbox"/>	<input type="checkbox"/>	downstream from non-point discharge	<input type="checkbox"/>	<input type="checkbox"/>	downstream from municipal point discharge
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	retains < 25 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains 25 - 50 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains > 50 % of overland flow
Natural Biologic Support	<input type="checkbox"/>	<input type="checkbox"/>	vegetation lacking	<input type="checkbox"/>	<input type="checkbox"/>	shrub / forested swamp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	marsh or bog
	<input type="checkbox"/>	<input type="checkbox"/>	isolated system	<input type="checkbox"/>	<input type="checkbox"/>	upper tidal marsh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intertidal marshes
	<input type="checkbox"/>	<input type="checkbox"/>	associated with ephemeral streams	<input type="checkbox"/>	<input type="checkbox"/>	associated with intermittent stream	<input type="checkbox"/>	<input type="checkbox"/>	associated with permanent stream
	<input type="checkbox"/>	<input type="checkbox"/>	low plant community diversity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	moderate plant community diversity	<input type="checkbox"/>	<input type="checkbox"/>	high plant community diversity
	<input type="checkbox"/>	<input type="checkbox"/>	single synusiae	<input checked="" type="checkbox"/>	<input type="checkbox"/>	several synusiae	<input type="checkbox"/>	<input type="checkbox"/>	many synusiae
	<input type="checkbox"/>	<input type="checkbox"/>	special habitat features lacking	<input checked="" type="checkbox"/>	<input type="checkbox"/>	special habitat features present	<input type="checkbox"/>	<input type="checkbox"/>	complex special habitat features present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no unique species	<input type="checkbox"/>	<input type="checkbox"/>	unique species potentially present	<input type="checkbox"/>	<input type="checkbox"/>	unique species present
	<input type="checkbox"/>	<input type="checkbox"/>	no water dependent species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	water dependent species potential	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	relatively small size	<input type="checkbox"/>	<input type="checkbox"/>	relatively medium size	<input type="checkbox"/>	<input type="checkbox"/>	relatively large size
	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to minor fishery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	adjacent to valuable fishery	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to significant fishery

N/A
HIGH
LOW
LOW - MODERATE
LOW - MOD
MODERATE

	o n s i t e	o v e r l a n d	Criteria for Low Value	o n s i t e	o v e r l a n d	Criteria for Moderate Value	o n s i t e	o v e r l a n d	Criteria for High Value
Shoreline Protection	<input type="checkbox"/>	<input type="checkbox"/>	sparse herbaceous layer or no vegetation wetland extends < 100 yards from shore located along undeveloped shoreline	<input type="checkbox"/>	<input type="checkbox"/>	sparse woody or dense herbaceous veg. wetland extends 100-200 yards from shore located on moderately developed shoreline	<input checked="" type="checkbox"/>	<input type="checkbox"/>	dense woody vegetation wetland extends > 200 yards from shore located on highly developed shoreline
Hydrologic Support	<input type="checkbox"/>	<input type="checkbox"/>	isolated depression temporary saturation or inundation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A open drainage system seasonally flooded MODERATE	<input type="checkbox"/>	<input type="checkbox"/>	open tidal system permanent saturation or inundation
Storm / Flood Water Abatement	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres in remote settings < 10 % woody vegetation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	size 5 - 10 acres in rural settings 10 - 30 % woody vegetation MODERATE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size > 10 acres in urban settings > 30 % woody vegetation
Groundwater Exchange	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	size < 5 acres isolated depressions temporarily saturated or inundated impermeable substrate CLARKIA CLAY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres seasonally flooded open system permanent shallow inundation semipermeable substrate LOW - MODERATE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size > 10 acres permanently flooded system deep inundation permeable substrate
Water Quality Improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intermittently flooded wetland < 50 % vegetation density size < 10 acres no proximity to non-point discharge retains < 25 % of overland runoff	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	lakes 50 - 80 % vegetation density size 10 - 100 acres downstream from non-point discharge retains 25 - 50 % of overland runoff MODERATE	<input type="checkbox"/>	<input type="checkbox"/>	estuary or perennial stream > 80 % vegetation density size > 100 acres downstream from municipal point discharge retains > 50 % of overland flow
Natural Biologic Support	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	vegetation lacking isolated system associated with ephemeral streams low plant community diversity single synusiae special habitat features lacking no unique species no water dependent species relatively small size adjacent to minor fishery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	shrub / forested swamp upper tidal marsh associated with intermittent stream moderate plant community diversity several synusiae special habitat features present unique species potentially present water dependent species potential relatively medium size adjacent to valuable fishery MODERATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	marsh or bog intertidal marshes associated with permanent stream high plant community diversity many synusiae complex special habitat features present unique species present water dependent species present relatively large size adjacent to significant fishery

Wetland #: PSSIF 2.9 AC

Field Rating Form for Wetland Function Evaluation**

Project: SNE 401

Date: Sep 98

	o n s i t e	o v e r l a n d	Criteria for Low Value	o n s i t e	o v e r l a n d	Criteria for Moderate Value	o n s i t e	o v e r l a n d	Criteria for High Value
Shoreline Protection	<input type="checkbox"/>	<input type="checkbox"/>	sparse herbaceous layer or no vegetation	<input type="checkbox"/>	<input type="checkbox"/>	sparse woody or dense herbaceous veg.	<input type="checkbox"/>	<input type="checkbox"/>	dense woody vegetation
	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends < 100 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends 100-200 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends > 200 yards from shore
	<input type="checkbox"/>	<input type="checkbox"/>	located along undeveloped shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on moderately developed shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on highly developed shoreline
Hydrologic Support	<input type="checkbox"/>	<input type="checkbox"/>	isolated depression	<input checked="" type="checkbox"/>	<input type="checkbox"/>	open drainage system	<input type="checkbox"/>	<input type="checkbox"/>	open tidal system
	<input type="checkbox"/>	<input type="checkbox"/>	temporary saturation or inundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded	<input type="checkbox"/>	<input type="checkbox"/>	permanent saturation or inundation
						N/A			
Storm / Flood Water Abatement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input type="checkbox"/>	<input type="checkbox"/>	in remote settings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in rural settings	<input type="checkbox"/>	<input type="checkbox"/>	in urban settings
	<input type="checkbox"/>	<input type="checkbox"/>	< 10 % woody vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10 - 30 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	> 30 % woody vegetation
						LOW - MODERATE			
Groundwater Exchange	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	isolated depressions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded open system	<input type="checkbox"/>	<input type="checkbox"/>	permanently flooded system
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	temporarily saturated or inundated	<input type="checkbox"/>	<input type="checkbox"/>	permanent shallow inundation	<input type="checkbox"/>	<input type="checkbox"/>	deep inundation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	impermeable substrate CLARKIA CLAY	<input type="checkbox"/>	<input type="checkbox"/>	semipermeable substrate	<input type="checkbox"/>	<input type="checkbox"/>	permeable substrate
						LOW			
Water Quality Improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intermittently flooded wetland	<input type="checkbox"/>	<input type="checkbox"/>	lakes	<input type="checkbox"/>	<input type="checkbox"/>	estuary or perennial stream
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	< 50 % vegetation density	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50 - 80 % vegetation density	<input type="checkbox"/>	<input type="checkbox"/>	> 80 % vegetation density
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size < 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 10 - 100 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 100 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no proximity to non-point discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	downstream from non-point discharge	<input type="checkbox"/>	<input type="checkbox"/>	downstream from municipal point discharge
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	retains < 25 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains 25 - 50 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains > 50 % of overland flow
						LOW - MOD			
Natural Biologic Support	<input type="checkbox"/>	<input type="checkbox"/>	vegetation lacking	<input checked="" type="checkbox"/>	<input type="checkbox"/>	shrub / forested swamp	<input type="checkbox"/>	<input type="checkbox"/>	marsh or bog
	<input type="checkbox"/>	<input type="checkbox"/>	isolated system	<input type="checkbox"/>	<input type="checkbox"/>	upper tidal marsh	<input type="checkbox"/>	<input type="checkbox"/>	intertidal marshes
	<input type="checkbox"/>	<input type="checkbox"/>	associated with ephemeral streams	<input type="checkbox"/>	<input type="checkbox"/>	associated with intermittent stream	<input checked="" type="checkbox"/>	<input type="checkbox"/>	associated with permanent stream
	<input type="checkbox"/>	<input type="checkbox"/>	low plant community diversity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	moderate plant community diversity	<input type="checkbox"/>	<input type="checkbox"/>	high plant community diversity
	<input type="checkbox"/>	<input type="checkbox"/>	single synusiae	<input type="checkbox"/>	<input type="checkbox"/>	several synusiae	<input checked="" type="checkbox"/>	<input type="checkbox"/>	many synusiae
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	special habitat features lacking	<input type="checkbox"/>	<input type="checkbox"/>	special habitat features present	<input type="checkbox"/>	<input type="checkbox"/>	complex special habitat features present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no unique species	<input type="checkbox"/>	<input type="checkbox"/>	unique species potentially present	<input type="checkbox"/>	<input type="checkbox"/>	unique species present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no water dependent species	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species potential	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species present
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	relatively small size	<input type="checkbox"/>	<input type="checkbox"/>	relatively medium size	<input type="checkbox"/>	<input type="checkbox"/>	relatively large size
	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to minor fishery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	adjacent to valuable fishery	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to significant fishery
						MODERATE			

Wetland #: PFO12 176 AC

Field Rating Form for Wetland Function Evaluation**

Project: SMR 404 Date: Sep 98

	Criteria for Low Value	Criteria for Moderate Value	Criteria for High Value
Shoreline Protection	<input type="checkbox"/> sparse herbaceous layer or no vegetation <input type="checkbox"/> wetland extends < 100 yards from shore <input type="checkbox"/> located along undeveloped shoreline	<input type="checkbox"/> sparse woody or dense herbaceous veg. <input type="checkbox"/> wetland extends 100-200 yards from shore <input type="checkbox"/> located on moderately developed shoreline <i>N/A</i>	<input type="checkbox"/> dense woody vegetation <input type="checkbox"/> wetland extends > 200 yards from shore <input type="checkbox"/> located on highly developed shoreline
Hydrologic Support	<input type="checkbox"/> isolated depression <input type="checkbox"/> temporary saturation or inundation	<input checked="" type="checkbox"/> open drainage system <input checked="" type="checkbox"/> seasonally flooded <i>MODERATE</i>	<input type="checkbox"/> open tidal system <input type="checkbox"/> permanent saturation or inundation
Storm / Flood Water Abatement	<input type="checkbox"/> size < 5 acres <input type="checkbox"/> in remote settings <input type="checkbox"/> < 10 % woody vegetation	<input checked="" type="checkbox"/> size 5 - 10 acres <input checked="" type="checkbox"/> in rural settings <input type="checkbox"/> 10 - 30 % woody vegetation <i>MOD - HIGH</i>	<input checked="" type="checkbox"/> size > 10 acres <input type="checkbox"/> in urban settings <input checked="" type="checkbox"/> > 30 % woody vegetation
Groundwater Exchange	<input type="checkbox"/> size < 5 acres <input checked="" type="checkbox"/> isolated depressions <input checked="" type="checkbox"/> temporarily saturated or inundated <input checked="" type="checkbox"/> impermeable substrate <i>CLAY</i>	<input checked="" type="checkbox"/> size 5 - 10 acres <input type="checkbox"/> seasonally flooded open system <input type="checkbox"/> permanent shallow inundation <input type="checkbox"/> semipermeable substrate <i>LOW - MOD</i>	<input checked="" type="checkbox"/> size > 10 acres <input type="checkbox"/> permanently flooded system <input type="checkbox"/> deep inundation <input type="checkbox"/> permeable substrate
Water Quality Improvement	<input checked="" type="checkbox"/> intermittently flooded wetland <input type="checkbox"/> < 50 % vegetation density <input type="checkbox"/> size < 10 acres <input type="checkbox"/> no proximity to non-point discharge <input checked="" type="checkbox"/> retains < 25 % of overland runoff	<input type="checkbox"/> lakes <input checked="" type="checkbox"/> 50 - 80 % vegetation density <input checked="" type="checkbox"/> size 10 - 100 acres <input checked="" type="checkbox"/> downstream from non-point discharge <input type="checkbox"/> retains 25 - 50 % of overland runoff <i>LOW - MOD</i>	<input type="checkbox"/> estuary or perennial stream <input type="checkbox"/> > 80 % vegetation density <input type="checkbox"/> size > 100 acres <input type="checkbox"/> downstream from municipal point discharge <input type="checkbox"/> retains > 50 % of overland flow
Natural Biologic Support	<input type="checkbox"/> vegetation lacking <input type="checkbox"/> isolated system <input type="checkbox"/> associated with ephemeral streams <input type="checkbox"/> low plant community diversity <input type="checkbox"/> single synusiae <input type="checkbox"/> special habitat features lacking <input checked="" type="checkbox"/> no unique species <input checked="" type="checkbox"/> no water dependent species <input type="checkbox"/> relatively small size <input type="checkbox"/> adjacent to minor fishery	<input checked="" type="checkbox"/> shrub / forested swamp <input type="checkbox"/> upper tidal marsh <input type="checkbox"/> associated with intermittent stream <input checked="" type="checkbox"/> moderate plant community diversity <input type="checkbox"/> several synusiae <input checked="" type="checkbox"/> special habitat features present <input type="checkbox"/> unique species potentially present <input type="checkbox"/> water dependent species potential <input checked="" type="checkbox"/> relatively medium size <input checked="" type="checkbox"/> adjacent to valuable fishery <i>MODERATE</i>	<input type="checkbox"/> marsh or bog <input type="checkbox"/> intertidal marshes <input checked="" type="checkbox"/> associated with permanent stream <input type="checkbox"/> high plant community diversity <input checked="" type="checkbox"/> many synusiae <input type="checkbox"/> complex special habitat features present <input type="checkbox"/> unique species present <input type="checkbox"/> water dependent species present <input type="checkbox"/> relatively large size <input type="checkbox"/> adjacent to significant fishery

	Criteria for Low Value	Criteria for Moderate Value	Criteria for High Value
Shoreline Protection	<input type="checkbox"/> sparse herbaceous layer or no vegetation <input type="checkbox"/> wetland extends < 100 yards from shore <input type="checkbox"/> located along undeveloped shoreline	<input type="checkbox"/> sparse woody or dense herbaceous veg. <input type="checkbox"/> wetland extends 100-200 yards from shore <input type="checkbox"/> located on moderately developed shoreline <p style="text-align: center;">N/A</p>	<input type="checkbox"/> dense woody vegetation <input type="checkbox"/> wetland extends > 200 yards from shore <input type="checkbox"/> located on highly developed shoreline
Hydrologic Support	<input type="checkbox"/> isolated depression <input type="checkbox"/> temporary saturation or inundation	<input checked="" type="checkbox"/> open drainage system <input type="checkbox"/> seasonally flooded <p style="text-align: center;">HIGH</p>	<input checked="" type="checkbox"/> open tidal system <input type="checkbox"/> permanent saturation or inundation
Storm / Flood Water Abatement	<input checked="" type="checkbox"/> size < 5 acres <input checked="" type="checkbox"/> in remote settings <input type="checkbox"/> < 10 % woody vegetation	<input checked="" type="checkbox"/> size 5 - 10 acres <input type="checkbox"/> in rural settings <input type="checkbox"/> 10 - 30 % woody vegetation <p style="text-align: center;">LOW</p>	<input type="checkbox"/> size > 10 acres <input type="checkbox"/> in urban settings <input type="checkbox"/> > 30 % woody vegetation
Groundwater Exchange	<input checked="" type="checkbox"/> size < 5 acres <input type="checkbox"/> isolated depressions <input type="checkbox"/> temporarily saturated or inundated <input checked="" type="checkbox"/> impermeable substrate CLARKIA CLAY	<input type="checkbox"/> size 5 - 10 acres <input type="checkbox"/> seasonally flooded open system <input checked="" type="checkbox"/> permanent shallow inundation <input type="checkbox"/> semipermeable substrate <p style="text-align: center;">LOW - MODERATE</p>	<input checked="" type="checkbox"/> size > 10 acres <input type="checkbox"/> permanently flooded system <input type="checkbox"/> deep inundation <input type="checkbox"/> permeable substrate
Water Quality Improvement	<input checked="" type="checkbox"/> intermittently flooded wetland <input checked="" type="checkbox"/> < 50 % vegetation density <input checked="" type="checkbox"/> size < 10 acres <input checked="" type="checkbox"/> no proximity to non-point discharge <input checked="" type="checkbox"/> retains < 25 % of overland runoff	<input type="checkbox"/> lakes <input type="checkbox"/> 50 - 80 % vegetation density <input type="checkbox"/> size 10 - 100 acres <input checked="" type="checkbox"/> downstream from non-point discharge <input type="checkbox"/> retains 25 - 50 % of overland runoff <p style="text-align: center;">LOW</p>	<input type="checkbox"/> estuary or perennial stream <input type="checkbox"/> > 80 % vegetation density <input type="checkbox"/> size > 100 acres <input type="checkbox"/> downstream from municipal point discharge <input type="checkbox"/> retains > 50 % of overland flow
Natural Biologic Support	<input checked="" type="checkbox"/> vegetation lacking <input type="checkbox"/> isolated system <input type="checkbox"/> associated with ephemeral streams <input checked="" type="checkbox"/> low plant community diversity <input type="checkbox"/> single synusiae <input checked="" type="checkbox"/> special habitat features lacking <input checked="" type="checkbox"/> no unique species <input checked="" type="checkbox"/> no water dependent species <input checked="" type="checkbox"/> relatively small size <input type="checkbox"/> adjacent to minor fishery	<input type="checkbox"/> shrub / forested swamp <input type="checkbox"/> upper tidal marsh <input type="checkbox"/> associated with intermittent stream <input type="checkbox"/> moderate plant community diversity <input checked="" type="checkbox"/> several synusiae <input type="checkbox"/> special habitat features present <input type="checkbox"/> unique species potentially present <input checked="" type="checkbox"/> water dependent species potential <input type="checkbox"/> relatively medium size <input checked="" type="checkbox"/> adjacent to valuable fishery <p style="text-align: center;">LOW - MOD</p>	<input type="checkbox"/> marsh or bog <input checked="" type="checkbox"/> intertidal marshes <input type="checkbox"/> associated with permanent stream <input type="checkbox"/> high plant community diversity <input type="checkbox"/> many synusiae <input type="checkbox"/> complex special habitat features present <input type="checkbox"/> unique species present <input type="checkbox"/> water dependent species present <input type="checkbox"/> relatively large size <input type="checkbox"/> adjacent to significant fishery

Wetland #: OVERALL 133.0 DAC

Field Rating Form for Wetland Function Evaluation**

Project: SML 404 Date: Sep 98

53.7% woody / 17.9% ZAC emergent

	o n s i t e	o v e r a l l	Criteria for Low Value	o n s i t e	o v e r a l l	Criteria for Moderate Value	o n s i t e	o v e r a l l	Criteria for High Value
Shoreline Protection	<input type="checkbox"/>	<input type="checkbox"/>	sparse herbaceous layer or no vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	sparse woody or dense herbaceous veg.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	dense woody vegetation
	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends < 100 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends 100-200 yards from shore	<input type="checkbox"/>	<input type="checkbox"/>	wetland extends > 200 yards from shore
	<input type="checkbox"/>	<input type="checkbox"/>	located along undeveloped shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on moderately developed shoreline	<input type="checkbox"/>	<input type="checkbox"/>	located on highly developed shoreline
						N/A			
Hydrologic Support	<input type="checkbox"/>	<input type="checkbox"/>	isolated depression	<input checked="" type="checkbox"/>	<input type="checkbox"/>	open drainage system	<input type="checkbox"/>	<input type="checkbox"/>	open tidal system
	<input type="checkbox"/>	<input type="checkbox"/>	temporary saturation or inundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded	<input type="checkbox"/>	<input type="checkbox"/>	permanent saturation or inundation
						MODERATE			
Storm / Flood Water Abatement	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input type="checkbox"/>	<input type="checkbox"/>	in remote settings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	in rural settings	<input type="checkbox"/>	<input type="checkbox"/>	in urban settings
	<input type="checkbox"/>	<input type="checkbox"/>	< 10 % woody vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10 - 30 % woody vegetation	<input type="checkbox"/>	<input type="checkbox"/>	> 30 % woody vegetation
						MODERATE			
Groundwater Exchange	<input type="checkbox"/>	<input type="checkbox"/>	size < 5 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 5 - 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size > 10 acres
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	isolated depressions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	seasonally flooded open system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	permanently flooded system
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	temporarily saturated or inundated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	permanent shallow inundation	<input type="checkbox"/>	<input type="checkbox"/>	deep inundation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	impermeable substrate CLARKIA CLAY	<input type="checkbox"/>	<input type="checkbox"/>	semipermeable substrate	<input type="checkbox"/>	<input type="checkbox"/>	permeable substrate
						MODERATE			
Water Quality Improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	intermittently flooded wetland	<input checked="" type="checkbox"/>	<input type="checkbox"/>	lakes	<input type="checkbox"/>	<input type="checkbox"/>	estuary or perennial stream
	<input type="checkbox"/>	<input type="checkbox"/>	< 50 % vegetation density	<input checked="" type="checkbox"/>	<input type="checkbox"/>	50 - 80 % vegetation density	<input checked="" type="checkbox"/>	<input type="checkbox"/>	> 80 % vegetation density
	<input type="checkbox"/>	<input type="checkbox"/>	size < 10 acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>	size 10 - 100 acres	<input type="checkbox"/>	<input type="checkbox"/>	size > 100 acres
	<input type="checkbox"/>	<input type="checkbox"/>	no proximity to non-point discharge	<input checked="" type="checkbox"/>	<input type="checkbox"/>	downstream from non-point discharge	<input type="checkbox"/>	<input type="checkbox"/>	downstream from municipal point discharge
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	retains < 25 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains 25 - 50 % of overland runoff	<input type="checkbox"/>	<input type="checkbox"/>	retains > 50 % of overland flow
						MODERATE			
Natural Biologic Support	<input type="checkbox"/>	<input type="checkbox"/>	vegetation lacking	<input checked="" type="checkbox"/>	<input type="checkbox"/>	shrub / forested swamp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	marsh or bog
	<input type="checkbox"/>	<input type="checkbox"/>	isolated system	<input type="checkbox"/>	<input type="checkbox"/>	upper tidal marsh	<input type="checkbox"/>	<input type="checkbox"/>	intertidal marshes
	<input type="checkbox"/>	<input type="checkbox"/>	associated with ephemeral streams	<input type="checkbox"/>	<input type="checkbox"/>	associated with Intermittent stream	<input checked="" type="checkbox"/>	<input type="checkbox"/>	associated with permanent stream
	<input type="checkbox"/>	<input type="checkbox"/>	low plant community diversity	<input type="checkbox"/>	<input type="checkbox"/>	moderate plant community diversity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	high plant community diversity
	<input type="checkbox"/>	<input type="checkbox"/>	single synusiae	<input type="checkbox"/>	<input type="checkbox"/>	several synusiae	<input checked="" type="checkbox"/>	<input type="checkbox"/>	many synusiae
	<input type="checkbox"/>	<input type="checkbox"/>	special habitat features lacking	<input checked="" type="checkbox"/>	<input type="checkbox"/>	special habitat features present	<input type="checkbox"/>	<input type="checkbox"/>	complex special habitat features present
	<input type="checkbox"/>	<input type="checkbox"/>	no unique species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	unique species potentially present	<input type="checkbox"/>	<input type="checkbox"/>	unique species present
	<input type="checkbox"/>	<input type="checkbox"/>	no water dependent species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	water dependent species potential	<input type="checkbox"/>	<input type="checkbox"/>	water dependent species present
	<input type="checkbox"/>	<input type="checkbox"/>	relatively small size	<input type="checkbox"/>	<input type="checkbox"/>	relatively medium size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	relatively large size
	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to minor fishery	<input checked="" type="checkbox"/>	<input type="checkbox"/>	adjacent to valuable fishery	<input type="checkbox"/>	<input type="checkbox"/>	adjacent to significant fishery
						MOD-HIGH			